DOCUMENT RESUME

ED 342 893 CE 060 414

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TITLE An Agenda for Leadership: A Report on Ohio's Vocational and Technical Education System.
INSTITUTION Education for Employment Consultants, Madison, WI.
SPONS AGENCY Ohio State Commission on Education Improvement, Columbus.
PUB DATE 30 Jun 91
NOTE 91p.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Academic Education; *Articulation (Education); Competency Based Education; Curriculum Development; *Educational Change; Educational Cooperation; Educational Finance; *Educational Policy; Education Work Relationship; *Integrated Curriculum; Leadership Responsibility; Master Plans; Postsecondary Education; Professional Development; Public Opinion; Resource Allocation; School Business Relationship; School Surveys; Secondary Education; *Technical Education; *Vocational Education
IDENTIFIERS *Ohio

ABSTRACT

Recommendations were made for improving articulation between and identifying ways to increase the effectiveness of Ohio's secondary and postsecondary vocational and technical education institutions. The study focused on four areas crucial in Ohio: program articulation between secondary and postsecondary institutions; collaboration with business and industry; services to special populations; and integration of vocational and academic education. Study methods were as follows: interviews were conducted with state officials; Ohio policies were reviewed; a survey was conducted of secondary and adult vocational education and two-year college technical program administrators (n=214, 60% response); and four community case studies were completed. Six conclusions were reached: (1) loose program coordination results in competition for secondary and adult students; (2) the public image of programs has diminished despite growing academic and workplace requirements; (3) staffing and fiscal reductions have constrained secondary reform; (4) initiatives are needed to involve businesses; (5) an integrated view of education as preparation for work is needed; and (6) professional development opportunities are limited. The following policy recommendations emerged from the study: (1) a master plan for coordination of work force education and training programs is needed; (2) tax incentives should be considered; and (3) resource reallocations must focus on program improvement, professional development, and performance-based assessment; business, industry, and labor participation; and curriculum revision and reform. (A glossary, surveys, and accompanying cover letters are included.) (NLA)

ED342893

AN AGENDA FOR LEADERSHIP

A Report on Ohio's Vocational and Technical Education System

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Ohio Commission on Education Improvement

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June 30, 1991

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INTEROFFICE COMMUNICATION
September 30, 1991

TO: ALL PLANNING AND ADMINISTRATIVE SERVICES UNCLASSIFIED STAFF

FROM: G. JAMES PINCHAK GP

SUBJECT: OHIO COMMISSION ON EDUCATIONAL IMPROVEMENT REPORT ON OHIO'S VOCATIONAL AND TECHNICAL EDUCATION SYSTEMS

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Enclosed is a copy of the recently distributed study conducted by the Education for Employment Consultants at the University of Wisconsin. Although the study indicates a June 30, 1991 publication date, the final study was not released until September 13, 1991.

The study provides an excellent survey of recent vocational reports and the six major conclusions are difficult to disagree with since they match our continuing efforts. The author attempted to use the data provided by our division, but seems to have reached different conclusions in some specific cases.

Please review this study for further discussion at future staff meetings.

/dll

Attachment

EXECUTIVE SUMMARY

AN AGENDA FOR LEADERSHIP

A Report on Ohio's Vocational and Technical Education Systems

The Commission on Education Improvement was directed by the Ohio General Assembly (Amended Substitute Senate Bill 140) to evaluate vocational education programs in the schools and technical education efforts in the 2-year institutions of higher education throughout Ohio. Overall, the purpose of the study was to make recommendations for improving the articulation between the two systems of vocational and technical education, and to identify ways to increase the effectiveness of vocational and technical education.

At the close of a competitive proposal process, Education for Employment Consultants of Madison, Wisconsin, was selected to conduct the six-month study. The study focused on four areas deemed crucial to the future of vocational and technical education in Ohio -- program articulation between secondary and postsecondary institutions, collaboration with business and industry, services to special populations, and the integration of vocational and academic curricula and instruction.

During the study, indepth interviews were conducted with state officials and legislators, Ohio policy documents and reports were reviewed, and a survey was conducted of all secondary vocational education, adult vocational education, and 2-year college technical program administrators. In May, two-day on-site visits were conducted in four Ohio communities. Interviews were held with educators, employers, students and others involved in vocational-technical education programs.

Six major conclusions are noted in the study.

1. Vocational-technical education programs governed by the Ohio Department of Education and the Ohio Board of Regents are, at best, only loosely coordinated, which results in intense competition for both secondary and adult students. Associated with this competition could be some notable duplication of programs.

2. The public image of the importance of vocational-technical education has diminished considerably despite the growing academic and technical requirements found in the workplace.

3. Throughout the state efforts to rejuvenate and reform secondary vocational education have been constrained by staffing and fiscal reductions.

4. More extensive initiatives are needed to engage the business community in the planning, implementation, and evaluation of vocational-technical programs at both the secondary and postsecondary levels.

5. In general, the education community lacks an "integrated view" of education as preparation for work. For the most part, academic/general educators, vocational-technical educators and counselors have not engaged in sufficient dialogue to develop new insights regarding the important contributions that vocational-technical courses make to the total education of youth. Formal collaboration among these faculty members has been limited at both the high school and 2-year college level.

6. Overall, opportunities for professional development for educators involved in vocational-technical education have been severely limited. Instructors have not been able to keep pace with the rapid changes occurring in various occupations and technical fields.

The major policy recommendations emerging from the study include:

1. The newly created Governor's Education Management Council should appoint and assist an inter-governmental working group in formulating a master plan for the regional and state-level coordination of workforce education and training programs in Ohio.

2. Tax incentives should be considered by the General Assembly to stimulate the active participation by the private sector in vocational-technical programs.

3. Plans for reallocating federal and state resources for vocational-technical education programs must focus on program improvement; professional development; performance-based assessment; enhancing participation by business, industry, and labor; and curriculum revision and reform.

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Introduction

Like other states, Ohio is undertaking major initiatives to improve the quality of public education. In 1989, the Ohio General Assembly enacted an omnibus education reform package designed to improve the quality of schools. Recently, the State Board of Education and the State Superintendent conducted a summit on educational reform to clarify directions and priorities for the state. The newly-elected Governor has created the Governor's Education Management Council to serve as an executive structure for coordinating reform efforts. Numerous groups from the private and community sectors have issued reports and undertaken other efforts to promote various aspects of educational reform. Clearly, a deep concern exists for developing an educational system which will prepare youth and adults to participate successfully in the 21st century.

Clearly, a deep concern exists for developing an educational system which will prepare youth and adults to participate successfully in the 21st century.

This intense interest in creating better schools and educational opportunities for all youth offers an important window of opportunity for re-considering the relationship between education and the workplace. As companies seek to compete in the global marketplace, they need individuals who have much different skills (National Center on Education and the Economy, 1990). High school curricula and college-level programs need to provide graduates with the knowledge and skills essential for coping with rapid technological change in the workplace. Nationally, numerous reports have been issued documenting the critical needs businesses have for improved skills in: team work and communication, problem-solving and creativity, critical-thinking, continuous learning, and understanding technological systems. In this arena, the implications for educational reform extend well beyond vocational education programs within high schools, joint vocational schools/career centers, and 2-year colleges. Eventually most youth will enter the workforce following their formal education. Regardless of whether they enter as front-line workers, skilled tradespersons, technicians, or professionals, these broader skills will be necessary to sustain employment.

In light of these developments and challenges, the Ohio Commission on Education Improvement was charged by the Governor and General Assembly with evaluating vocational education in public schools and technical education in postsecondary schools for the purposes of:

1. making recommendations for increasing the effectiveness of vocational and technical education,
2. modernizing the vocational education curriculum, and
3. for improving articulation between secondary and postsecondary vocational and technical education. (Section 13B).

This report constitutes the Commission's response to the directive for a comprehensive evaluation of Ohio's vocational and technical education systems at the secondary and postsecondary levels. It was prepared under contract by the Education for Employment Consultants of Madison, Wisconsin. The contractor was selected by the Commission following a competitive bid process which was undertaken in the October, 1990-January, 1991.

The report is organized in four major sections designed to provide an overview of the study and its findings, as well as an understanding of the broader educational and economic context in which vocational-technical education must be evaluated. Section 1 is an overview of the study's purposes and design. Section 2 outlines the various recommendations emerging from national reports on the needed connections between education and work. Section 3 contains a detailed description of the current vocational-technical education enterprise in Ohio. Section 4 presents the conclusions and policy recommendations emerging from the study. The appendices include a brief glossary of key terms and concepts used in Ohio vocational-technical education programs and the survey instrument.

Readers who are unfamiliar with some of the conventional terms used in the Ohio vocational-technical education enterprise will find the glossary useful.

SECTION 1: OVERVIEW OF THE STUDY

In February, 1991, the Ohio Commission on Education Improvement undertook an independent assessment of the state's two delivery systems for vocational-technical education along with an evaluation of their current and future needs. The purpose of the study was to assess the capacity of the secondary and postsecondary vocational-technical education programs and policies to respond to new directions. More specifically, the 6-month study focused on an analysis of the following issues:

a. program articulation between the high schools, joint vocational schools, and 2-year colleges,
b. collaboration with business, industry and labor,
c. the integration of academic and vocational instruction,
d. and coordination of services to special populations.

The purpose of the study was to assess the capacity of the secondary and postsecondary vocational-technical education programs and to respond to new directions.

Education for Employment Consultants of Madison, Wisconsin, was awarded a contract to conduct the study. The study included several components, a survey of all local administrators (Vocational Education Planning Districts, Joint Vocational School Districts, and Two-Year Colleges), in-depth interviews with state officials, analyses of recent studies and existing literature, and four community case studies. The community case studies were of randomly selected communities in urban, rural, and mid-size Ohio communities. During the case studies, interviews were conducted with administrators, teachers, students, local business and labor leaders, and interested others.

In commissioning the study, it was anticipated that the results would be useful in developing a set of policy recommendations for consideration by the State legislature, the Ohio Board of Regents, and the Ohio Department of Education. The recommendations were to focus on improving state policy, fiscal resources, and strategic planning strategies to assure that Ohio's vocational-technical education programs continue to be responsive to changing workplace, technological, and social needs.

The design of the study included the following activities and tasks:

1. Three days of initial consultation with several members of the Commission and the Commission staff regarding the design and implementation of the study. Discussions were also held with legislative staff, staff from the respective state agencies/boards, and individuals

knowledgeable about vocational-technical education in Ohio.

2. Two visitations with staff of the Ohio Board of Regents (OBR) and the Ohio Department of Education (ODE), Division of Vocational and Career Education to review plans for the study and survey instruments. These offices where extremely helpful in reviewing plans for the study, critiquing instruments, and preparing mailing lists.

3. A six-page survey was developed for the purpose of collecting program status and evaluative information from three groups -- administrators of high school vocational programs, administrators of programs serving adult students, and administrators of technical education in the 2-year colleges. The OBR provided the mailing list for the 2-year college administrators, while the ODE provided the other two lists. Overall, 353 surveys were mailed. Content validation of the survey was provided through discussions with staff members of the Board of Regents, Department of Education, and the Commission. Cover letters for the surveys were provided by the Executive Director of the Commission as well as the heads of the respective state agencies.

The following table describes the survey population and the returns:

	No. Mailed	No. Returned	Percent
Secondary Vocational Administrators	162	85	52.5
Postsecondary/Adult Administrators	137	96	70.1
Two-Year College Administrators	54	33	61.1
TOTALS	353	214	60.6

4. Four community case studies were completed. The communities were selected based on the following criteria: rural, urban, mid-size community, and a community with exemplary articulation and coordination efforts in place. The latter community was jointly selected by staff from the Board of Regents and the Department of Education. In selecting the three other communities, consideration was given to the community's general unemployment rate, percent of

at-risk students, and number of 11th and 12th grade students.

In each of these communities, half day visitations were made to a comprehensive high school, a joint vocational school (JVS) or career center, and the technical or community college. At each educational institution, the team of consultants interviewed administrators, vocational-technical and academic instructors, counselors, and a sample of 4-8 students. In addition, a late afternoon or evening Open Forum was conducted in which employers, parents, and others concerned with vocational-technical education were invited to share their concerns and issues. On average, the following numbers of individuals were interviewed in each community:

Educational Administrators	5
Instructors	12
Guidance Counselors	5
Students	15
Employers	15
Parents	5
TOTAL	57

Summary notes were developed following community case study visitation. These notes were a primary source of data during the analysis phase of the study. Information from the case study notes is found in the findings and conclusions sections of the report under the headings "observations from the field". These sections identify the issues, problems, and innovative developments occurring in the communities relative to vocational-technical education programs.

5. During the week of June 10, follow-up calls were made to a sample of 10 nonrespondents from each of the three local administrator groups. This step provided assurance that the sample data were generalizable to vocational-technical education programs throughout Ohio. That is, the responses provided by administrators in the follow-up calls were not different from those obtained in the initial surveys.

SECTION 2. THE EDUCATION-WORK CONNECTION: ISSUES AND CHALLENGES

The issues associated with educational reform and its relationship to the work place are complex. The spate of recent national reports provides a useful background for developing the full range of possible options for policymakers and leaders in Ohio. Not unlike most other states, Ohio must develop effective education and training strategies for a host of interconnected issues, including the school-to-work transition of youth, upgrading the skills of the existing work force, assessing the implications of new technologies for workers, and enhancing economic competitiveness.

Not unlike most other states, Ohio must develop effective education and training strategies for a host of inter-connected issues, . . .

Much has been discussed over the past few years regarding worker productivity, American competitiveness, skilled work forces, global economies, and the challenge to the American educational system these concepts represent. Most notably and most recently, the President of the United States released AMERICA 2000: An Education Strategy, which is a long-range plan geared to advance the national education goals he and the nation's governors adopted last year. The Ohio Commission on Education Improvement recently issued a report contrasting recent Ohio educational reform initiatives with the national agenda provided in AMERICA 2000.

Among the strategies identified in AMERICA 2000 is the following:

> **Private-Sector Skills and Standards:** Business and labor will be asked to adopt a strategy to establish job-related (and industry-specific) skill standards, built around core proficiencies, and to develop "skill certificates" to accompany these standards. The president has charged the secretaries of Labor and Education to spearhead a public-private partnership to help develop voluntary standards for all industries.[1]

The importance, then, of repositioning and involving business and labor both in the conduct of the American educational enterprise as well as benefiting from its continued enhancement and reform is self-evident. Having reached this conclusion, the following is additional thinking relative to the national perspective on the future of American education vis a vis America's economy and future workforce.

The Changing Nature of Work

As American businesses continue to reorganize in order to remain competitive, all employees will be expected to: learn on the job; use math, science and technology to solve problems; and think critically and creatively. Without technicians and front-line production workers who are highly skilled, it will be extremely difficult in the coming decade to meet the demand for high technology products and quality services.

. . . the skills gap between what business needs and the qualifications of entry-level workers is widening;

In a 1988 series of meetings sponsored by the U.S. Departments of Commerce, Education and Labor, representatives of education and businesses concluded the following regarding the future of America's workforce:

1. jobs in today's economy are changing in content and skill requirements;

2. the skills gap between what business needs and the qualifications of entry-level workers is widening;

3. employees are practically unanimous in their concern that entry-levelworkers' competencies are deficient, and these deficiencies are costing American business monetarily;

4. the majority of educators maintain their graduates are well prepared for entry level jobs. Few educators acknowledge that the gaps are as severe as business indicates; and

5. both employers and educators need to develop ways to reduce the isolation of their worlds in order to prepare students for the workplace.

In order to close this gap between skills necessary and the educational curriculum, the report emanating from this same group of business and educational representatives recommended the following:

1. Improve the quality of education for our nation's youth through fundamental education reforms in our nation's schools.

2. Mobilize business to assist schools in ways that capitalize on their comparative strengths and advantages.

3. Mobilize the community to integrate efforts to ensure a

quality education for our young people and quality workforce for our nation.[2]

The Commission on the Skills of the American Workforce recently issued a report entitled America's Choice: High Skills or Low Wages, in which the national decline in productivity growth is clearly documented. In essence, the major challenge to increasing productivity is seeking changes in the organization of work. Through "high performance work organizations" increased autonomy and responsibility must be given to front-line employees. Unless the organization of work places is altered, increases in productivity and wages are not likely to be realized by American businesses. Five recommendations were advanced:

1. A new educational performance standard should be met by all students (e.g., the certificate of initial mastery)

2. Students not successfully completing the Certificate of Initial Mastery by age 16 would receive additional services through alternative programs, including Youth Centers for high school dropouts.

A system of Employment and Training Boards should be established to organize and oversee the new high performance education and training system.

3. A comprehensive system of technical and professional certificates and associate degrees would be created for the majority of students and adult workers who do not pursue a bachelors degree.

4. All employers should be given incentives for and participate in a system to train and educate workers through the creation of a fund created from an employer payroll tax.

5. A system of Employment and Training Boards should be established to organize and oversee the new high performance education and training system.

The United States confronts a deepening crisis in the supply of skilled workers. Employers in virtually every business sector report increasing difficulty in bringing the skills of current workers up to the levels required by the sophistication of the modern workplace. They are even more discouraged by problems in recruiting young, new workers with these higher level skills. Nowhere is this crisis more apparent than in the manufacturing sector. In Made in America: Regaining the Competitive Edge (1989), the M.I.T. Commission on

Industrial Productivity concluded two years of extensive research on issues of competitiveness in the U.S. economy with the following observation:

> **Without major changes in the ways schools and firms train workers over the course of a lifetime, no amount of macro-economic fine tuning or technological innovation will be able to produce significantly improved economic performance and a rising standard of living. . .**

The problems of worker preparation result from a number of economic, technological and demographic shifts which have not been supported by concomitant improvements in education, training, and employment policies.

Determining the skills for a quality workforce either in the near or distant future is indeed a tenuous task at best. Oftentimes, business leaders are hard pressed to prognosticate what kinds or types of workers they will need. Over the past few years, however, concerted activities have been undertaken to at least attempt to identify some of the more basic of skills all new workers, and in some cases, existing workers will need to assimilate in the very near future.

Skills in the 21st Century

The American Society for Training and Development, under a grant from the U.S. Department of Labor, conducted a nationwide survey of 6,500 businesses, questioning them on the essential skills needed by the changing workforce. The study included sixteen skills employers identified as basic workplace skills.

1. Learning how to learn
2. Reading for the new workplace
3. Writing with impact
4. Computation in a technological workplace
5. Oral communication
6. Principals of good listening
7. Resourcefulness
8. Creative thinking and problem solving
9. Self-esteem
10. Motivation and goal setting
11. Personal and career development
12. Interpersonal skills
13. Teamwork
14. Negotiation skills
15. Understanding organizational culture
16. Sharing leadership[3]

The qualities of high performance that today characterize our most competitive companies must become the standard...

In the past year, the Secretary of Labor appointed a commission to examine the demands of the workplace and whether America's youth are capable of meeting those demands. In its first report, the Secretary's Commission on Achieving Necessary Skills (SCANS) drew the following three major conclusions:

1. All American high school student must develop a new set of competencies and foundation skills if they are to enjoy a productive, full, and satisfying life.

2. The qualities of high performance that today characterize our most competitive companies must become the standard for the vast majority of our companies, large and small, local and global.

3. The nation's schools must be transformed into high-performance organizations in their own right.[4]

This apparent or real disparity between skills or competencies needed by business and skills or competencies taught in education is being addressed by the SCANS Commission. Its approach is to identify five competencies and three foundation skills which transcend either traditional academic or vocational education programming and, for that matter, levels of instruction. A schema follows:

"Workplace Know-how"

The know-how identified by SCANS is made up of five competencies and a three-part foundation of skills and personal qualities that are needed for solid job performance. These include:

COMPETENCIES - effective workers can productively use:

- **Resources** - allocating time, money, materials, space, and staff;
- **Interpersonal Skills** - working on teams, teaching others, serving customers, leading, negotiating, and working well with people from culturally diverse backgrounds;
- **Information** - acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information;
- **Systems** - understanding social, organizational, and

technological systems, monitoring and correcting performance, and designing or improving systems;

- **Technology** - selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies.

THE FOUNDATION - competence requires:

- **Basic Skills** - reading, writing, arithmetic and mathematics, speaking, and listening;
- **Thinking Skills** - thinking creatively, making decisions, solving problems, seeing things in the mind's eye, knowing how to learn, and reasoning;
- **Personal Qualities** - individual responsibility, self-esteem, sociability, self-management, and integrity.[5]

The Challenge to Education

In addressing these challenges to improve the educational levels and skills of American workers, Workforce 2000 offers foundations upon which any new educational reform movement must focus.

1. Even more than such closely-watched indicators as the rate of investment in plant and equipment, human capital formation plays a direct role in how fast the economy can grow.

The foundation of national wealth is really people - the human capital represented by their knowledge, skills, organizations, and motivations.

2. Even the least skilled jobs will require a command of reading, computing, and thinking that was once necessary only for the professions,
3. The foundation of national wealth is really people - the human capital represented by their knowledge, skills, organizations, and motivations.
4. Students must go to school longer, study more, and pass more difficult tests covering more advanced subject matter.
5. From an economic standpoint, higher standards in the schools are the equivalent of competitiveness internationally.[6]

In response to the challenges posed by Workforce 2000, a U.S. Department of Labor's Commission offered a strategy to avert economic decline by improving the quality of the workforce. Among its recommendations pertaining to the foundations of workforce quality are:

1. Education efforts range from student and teacher competency testing to recognition and reward systems.

2. The business community is encouraged to have greater presence in the schools, input on classroom instruction, provide rewards for excellence, and assist in the transition from school to work.

3. Federal officials are advised to develop national goals which would influence the development of state and local plans of action.[7]

The key is improving the skills of the workforce as a whole, and involves both workforce entrants and those already in the workforce.

Education's response to this challenge must, then, be one of coordinated effort; business, labor, government and, of course, education. And educators must exert leadership.

Substantial worker skill upgrading, if it is going to happen, cannot be accomplished through simply improving the skills of minority or "disadvantaged" workforce entrants. The key is improving the skills of the workforce as a whole and involves both workforce entrants and those already in the workforce.

Interestingly, companies tend to train their highest educated workers and thereby accentuate differences in educational levels among their employees. For example, recent research by the American Society for Training and Development reveals that 79% of college educated workers have received training from their employers. Of those who have completed high school, about 71% have received some training, but only 49% of non-high school completers have received training. For small firms the problem is accentuated because they spend less on training than larger firms. These relatively low levels of employee training are particularly dangerous because of the growing concentration of sophisticated technological, managerial and organizational information within companies.

The point of improving workforce skills should not be to "match" the skill required for an improbable future explosion of professional/technical and other high skill jobs, but rather to provide a

solid base of workforce quality from which widespread upgrading of job content can be pursued. This means that training and education policies should be viewed as active policies that might alter our growth path rather than reactive policies passively adapting to existing or expected jobs.[8]

Education's Response

Clearly, there is a lack of support, both on the policy and delivery levels, for those youth not likely to embark upon undergraduate education. The William T. Grant Foundation Commission on Work, Family, and Citizenship calls for "added chance" opportunities for youth who are out of school and out of work through the following:

1. Expanded coordination and partnerships at all levels with agencies serving youth.

2. Incorporation of intensive academic skills training in all employment training programs.

3. Expansion of the Job Corps concept.

4. State and local youth corps.

5. Non-residential pre-employment training.

6. Reforms in the Job Training Partnership Act to be more effective in reaching the hardest to serve (not the easiest with which to achieve high performance ratings).[9]

Work needs to be advanced to eliminate stereotypes that segregate and devalue vocational learning from academic learning.

For the matter of in-school youth, educators, along with representatives from business and labor have offered some creative, new proposals to address these problems. Work needs to be advanced to eliminate stereotypes that segregate and devalue vocational learning from academic learning. The SCANS Report cited elsewhere in this report (footnote #5) offers a framework which holds some great potential in meeting this need.

In The Neglected Majority,[10] Dale Parnell, President of the American Association of Community and Junior Colleges, argues that a 2+2 or Tech-Prep program is needed that provides four years of concentrated preparation for a technical career during the last two years of high school and two years in a community or technical college. The Tech-Prep program is based on several, new underlying principles: (1)

abandoning the assumption that a baccalaureate degree means dignity for all individuals, (2) eliminating the general education track that consists of unfocused learning and fewer marketable skills, (3) striving for excellence at all levels as an imperative, (4) instituting goal-oriented educational programs that have the diversity to match the diversity in students, and (5) achieving a balance between liberal and practical arts is critical to prepare our citizens of tomorrow. Many of Parnell's idea's are reflected in the new Tech-Prep program contained in the recently amended Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990.

...achieving a balance between liberal and practical arts is critical to prepare our citizens of tomorrow.

According to Brian Bosworth, in a paper entitled Modernizing America's Industrial Base: Implications for Firms, Workers, and States,[11] a redefinition of the relationship between education and work must occur. The nature of work is changing so dramatically that it alters, fundamentally, the historic division between school and work. State government modernization strategies should recognize and act on the need to reduce the boundaries between these institutions.

With expanded communication among and commitments from the community of educators, employers, policymakers, and parents, the American educational enterprise might very well accomplish what so many expect from it relative to the preparation of our workforce and citizens.

SECTION 3. THE VOCATIONAL-TECHNICAL EDUCATION ENTERPRISE IN OHIO

Within Ohio, vocational-technical education is administered under the auspices of both the Ohio Department of Education, Division of Vocational and Career Education and the Ohio Board of Regents. The Ohio Board of Education is designated by the Governor as the sole state agency for purposes of participation in the Federal Vocational Education Act. When broadly defined, vocational-technical education programs are located in junior high schools, comprehensive high schools, joint vocational schools/career centers, and community and technical colleges throughout the state.

As noted in the State Plan for the Administration of Vocational Education in Ohio, the State Board adopted an expanded mission statement for vocational education on July 1, 1990. It reads as follows:

> *The mission of the vocational and career education system is to prepare youths and adults, in an efficient and timely fashion, to make informed career choices and to successfully enter, compete, and advance in a changing work world. This broadened mission will be achieved in concert with the educational and business communities by offering comprehensive education, training, and support services that develop the following:*
>
> - *Occupational skills -- those skills involving the technical abilities to perform required workplace tasks, including problem solving and critical thinking*
> - *Academic skills -- those core competencies necessary to prepare for and secure a career, facilitate lifelong learning, and assure success in a global economy*
> - *Employability skills -- those personal development and leadership abilities essential for increased productivity, economic self-sufficiency, career flexibility, business ownership, and effective management of work and family commitments.*

The Education 2000 Commission described Ohio's comprehensive vocational education system. Through the 101 Vocational Education Planning Districts (VEPD - a school district or group of districts), nearly 550,000 students (youth and adults) are served annually (according to the Department of Education's enrollment report, August, 1991).[12] Each VEPD offers a minimum of 12 different job training programs with 20 different classes in each program. The major program areas include: agriculture, marketing, business, health, home economics, and trade and industrial education.

The fiscal commitment to vocational education programs is substantial with approximately $650 million in equipment and facilities. The annual operating budget exceeds $550 million, which is generated from the following sources:

	Budget	Percent
State revenues	$270 mil	49
Federal funds	39	7
Local revenues	240	44

... 580 of the 612 school districts offer vocational-technical education programs.

The current State Plan for Vocational Education includes the following descriptive information:

- 580 of 612 school districts offer vocational-technical education programs.
- Programs are housed in 1,031 local buildings (e.g., high schools, junior high schools). In addition there are 49 Joint Vocational Schools operating within 96 buildings.
- In FY 1990, the comprehensive secondary school vocational programs served 57,888 students in job training programs, while the Joint Vocational Schools enrolled 34,952 in vocational programs.
- Nearly 105,000 secondary school students were enrolled in consumer and homemaking programs. A total of 6,283 students were enrolled in consumer and homemaking programs in the JVSs.

The ODE/DVCE enrollment report for 1990-91 indicates that students are enrolled in both job training, and general work force preparation programs such as technology education or occupational work experience programs which provide special population students with opportunities to develop positive work habits and earn money and credit for while remaining in school. Nearly 70% of those enrolled are in job training, occupation-specific programs. It is important to note that these enrollment figures reflect enrollments for only those programs that received some federal assistance. For example, students who are enrolled in technical and community college programs that do not receive federal aid are not included in these enrollment figure. According to the Ohio Council on Vocational Education,[13] for selected associate degree programs meeting specific vocational education criteria, the Division of Vocational and Career Education supports approximately 4 percent of the costs. Approximately 24 percent of the FY 1989 students were enrolled in associate degree programs funded partially by the Division of Vocational and Career Education.

	Composite Voc./Tech Education Enrollment	Job Training Enrollment
Joint Vocational Schools	211,607	189,375
Male	121,624	112,793
Female	89,983	76,582
Local Schools	265,771	126,469
Male	117,022	67,710
Female	148,749	58,759
Public Postsecondary Institutions	72,013	65,845
Male	34,159	32,175
Female	37,854	33,670
TOTAL	549,391	381,689
Male	272,805	212,678
Female	276,586	169,011

A network of 28 full service adult center also provide adults with an array of support services including vocational assessment, career counseling, and job readiness instruction.

The JVSs are also heavily engaged in providing part- and full-time employment training for adults. The Ohio Council on Vocational Education reports that 206,659 adults, including 6,698 apprentices, were enrolled in part-time courses, and 67,888 were enrolled in full-time programs. Operated under the auspices of the Division of Vocational and Career Education, these programs provide training or retraining to achieve stability or advancement in employment. A network of 28 full service adult centers also provide adults with an array of support services, including vocational assessment, career counseling, and job readiness instruction.

The Ohio Board of Regents serves as a coordinating board for technical colleges, community colleges, state community colleges, and university branch campuses. However, each institution has its own board of trustees.

In Ohio, postsecondary technical education is delivered in 23 technical and community colleges. These associate degree programs focus on the preparing individuals for employment in technical occupations in which employees often support the work of professionals. Some technical programs are also operated at 23 of the 30 university regional campuses. A broad spectrum of programs, including more than 100 associate degree programs, is offered. Additional programs include work-site training, cooperative work experience, apprenticeship, and university-parallel pre-baccalaureate

degree programs. Both credit and non-credit instruction is provided in these programs.

The March 1991 Inventory of Programs provided by the Ohio Board of Regents indicates the following array of technical programs:

	Programs
Agricultural and Natural Resources Technologies	31
Business Technologies	57
Engineering and Industrial Technologies	81
Health Technologies	40
Public Service Technologies	19

According to the Ohio Council on Vocational Education, the full-time equivalent enrollment in 1989 was nearly 86,000 students. The enrollment by type of institution is outlined below:

Community colleges	38,626
Technical colleges	24,420
University regional campuses	22,894
TOTAL	85,940

Student tuition funds approximately 41 percent of the costs of technical education programs, while 59 percent is borne by the State.

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In 1989, Senate Bill 140 authorized the State Board to develop a plan of action for accelerating the modernization of vocational education in Ohio. Following a series of meetings and forums, the State Board adopted in June, 1990, a comprehensive action plan entitled Ohio's Future at Work.[14] Provided in the format of a strategic plan, the document outlines the following 11 imperatives and provides goals, action steps, and timetables for each imperative:

1. Broaden the scope of the vocational education experience for each student

2. Improve access to enhanced educational opportunities

3. Emphasize rigorous outcomes for vocational education students and programs

4. Focus on lifelong individual needs

5. Provide career-focused education for all students

6. Modify and streamline vocational education standards, guidelines, and policies

7. Assure adequate resources and their efficient utilization

8. Accelerate professional development of vocational educators

9. Extend and strengthen vocational education's strategic alliances

10. Enhance the public's understanding of, and support for, vocational education

11. Maintain constant emphasis on improving and renewing the vocational education system.

A glaring shortcoming within the Modernization Plan is the lack of alliance building with the 2-year colleges. A major focus of this study was to assess the nature and extent of articulation occurring between the two systems, yet the Action Plan for Accelerating the Modernization of Vocational Education in Ohio does not speak to the issue of or provide plans for enhancing articulation with the community and technical colleges and other postsecondary education institutions. Given a number of recent and anticipated changes, this limited interaction between the two systems is highly problematic. Careful and ongoing coordination is essential for determining the appropriate role of private career schools -- which have grown in number because of the availability of federal funds to support students choosing to enroll in a trade, technical or business college. The upcoming amendments to the federal Higher Education Act will affect the future growth and quality of these programs. Many community and technical colleges have created profit centers that focus exclusively on work-based training programs. These programs compete directly with several of the adult vocational-technical education programs operated by the Joint Vocational Schools and Vocational Education Planning Districts. The lack of formal collaboration raises serious questions about the level of trust, shared focus, and resolve existing between the systems to provide Ohio citizens with high quality vocational-technical education.

The Education 2000 Commission offered a cursory analysis of vocational education in Ohio in their 1988 report entitled: A Game Plan for National Championship for Ohio's Public Schools.[15] Among the more prominent recommendations were the following:

1. That a task force be created to determine whether "vocational education" as a separate track should be

discontinued by the year 2000 and if so, how to implement such a decision. We consider it likely that, by that time, our Joint Vocational Schools should be converted to regional schools providing excellence in science and technology and that all schools should integrate the academic skills required for 21st century employability into the regular academic program for all students.

2. Everyone involved in public education -- superintendents, school boards, principals, teachers, coaches and counselors -- should be made aware of the fact that preparation for a useful and productive career is part of the objective of public education for all children and is not solely the objective of "vocational education".

3. Instilling good work habits, developing fluency in the written and spoken English language and teaching mathematical concepts and skills should be seen as the fundamental responsibility of everyone involved in the education of every child regardless of whether the child is enrolled in an "academic" or a "vocational" program.

4. Before graduation from high school, every student should receive adequate training in the principles of a competitive economy and should understand how such an economy works and what the individual must do in order to contribute to and benefit from that society.

The most recent examination of vocational and technical education in Ohio was completed in early 1991 by the Joint Commission on Vocational and Technical Education.[16] Section 14 of Amended Substitute Senate Bill 140, passed by the 118th General Assembly, created a Joint Commission to assess the effectiveness of Ohio's current vocational education system and technical education system, clarify the respective systems' responsibilities (including assessing the possible duplication of programs and services), and make recommendations for providing improved and expanded opportunities through these systems. Chaired by Dr. Sherwood Fawcett (the former Chairman and CEO of the Battell Memorial Institute), the Commission included five individuals appointed by the Ohio Board of Education and five appointed by the Ohio Board of Regents. Following seven months of study in which the Commission reviewed current workforce literature and trends and conducted open hearings, a report was drafted

for the Ohio Commission on Education Improvement.

The Joint Commission's 15-page report addresses each of the charges it was asked to examine. Regarding the program effectiveness, the report concludes that "...continuous efforts must be exerted to improve and upgrade the two systems (postsecondary and secondary/ adult) to assure coherency and economy in the preparation of skilled occupational and technician-level employees for Ohio's workforce (p. 7). Among other noteworthy findings, the Joint Commission urged that:

- Improved and coordinated planning by secondary vocational and postsecondary technical education institutions be undertaken (p. 7).
- While there is currently little duplication of educational services between the high school vocational programs and the college-level technical programs, additional collaborative efforts (particularly at the State level) are needed to ensure that students can readily gain access to and transition between both systems (p. 8).
- Greater efforts be undertaken to expand the 26 Tech-Prep consortia that have been formed high schools and colleges throughout Ohio (p. 9).
- Incentives be established for local level for cost-efficient sharing of resources such as facilities, laboratories, equipment, and personnel (p. 10).
- The general track be eliminated from the high school curriculum (p. 12).
- Barriers to student and parent choice between local high schools and joint vocational schools be eliminated (p. 12).
- Strategies be developed and strengthened for recruiting women and students from underrepresented groups into vocational-technical programs at both levels (p. 12).

SECTION 4: FINDINGS AND CONCLUSIONS

Integration of Academic and Vocational—Technical Education

As noted in Table 1, vocational-technical educators in Ohio are in the initial stages of developing and applying a variety of interventions aimed at integrating academic and vocational- technical education. Clearly, pre-assessment of basic skills was ranked as the most extensively applied integration strategy by all three respondent groups.

Table 1
Integration of Academic and Vocational-Technical Education, Means and Rank Order of Strategies for Integration

Integration Strategies	Secondary Vocational Administrators	Postsecondary/ Adult Administrators	2-Year College Administrators	p value
Team teaching with math, science, or English teachers	2.09	1.26	1.16	.001*
Pre-assessment of basic skills	3.21 (1)	3.88 (1)	4.40 (1)	.000*
Appropriate placement based on basic skills	2.83 (2)	3.40 (2)	4.31 (2)	.000*
Introduction of applied academics courses	2.63 (3)	2.07 (3)	N/A	.041*
Introduction of applied academic units within courses	2.35	2.52	N/A	.508
Development of applied modules for use by science, math or English teachers	2.25	1.45	N/A	.001*
Re-designing general education requirements	N/A	N/A	3.06	
Re-designing technical-related requirements	N/A	N/A	3.55	

Extensiveness of integration scale:
0=Not at all, 5=In more than 75% of programs
*=p value significant at < .05 or less

Pre-assessment of basic skills is already in place in most 2-year colleges which often require some form of basic skills assessment as a placement indicator after admission to the college. Pre-assessment of basic skills at the collegiate level is in place to assist in appropriate placement in either academic or vocational programs; initially, however, it was not envisioned as a strategy to integrate more effectively academic and vocational skills.

...[pre-assessment] was not envisioned as a strategy to integrate more effectively academic and vocational skills.

Postsecondary/adult administrators perceive the need for pre-assessment of basic skills but feel constrained in their ability to deliver what is frequently limited-team instruction to address both academic deficiency and the specific occupationally relevant skills demanded by adult learners seeking immediate employment. In the secondary system, instruction in basic academic skills historically has been regarded as the purview of the academic or "home" school faculty; hence, basic skills issues are perceived still as the primary responsibility of faculty other than Joint Vocational School or vocational program faculty. However, as demands from employers of vocational-technical program completers have begun to include greater entry-level competencies in the cognitive and affective areas traditionally assigned to academic programs, vocational adult program administrators and JVS administrators have initiated more widespread efforts in the pre-assessment of basic skills as the initial strategy in integrating academic and vocational-technical education.

Appropriate placement based on basic skills was ranked as the second most extensively applied integration strategy by all three respondent groups (see Table 1). Closely tied to pre-assessment of basic skills, this integration strategy is utilized in over half of the 2-year college programs, approximately a third of the postsecondary/adult vocational-technical programs, and in nearly a third of secondary vocational programs.

Team teaching with math, science, or English teachers was ranked the least extensively applied integration strategy by all three respondent groups (see Table 1). While regarded as a potentially potent strategy for integrating academics with vocational-technical programs, respondents noted such constraints to implementing this strategy as lack of flexibility in student and faculty schedules as well as faculty resistance to change. Perceptions of funding concerns, especially regarding faculty loads/assignments was also mentioned. Finally, it should be noted that 2-year college administrators perceive this integration strategy as less extensively applied than do either secondary or postsecondary/adult vocational administrators. This may reflect the

2-year college's commitment to re-designing general education and technical-related requirements as a preferred integration strategy.

Secondary vocational administrators, postsecondary/adult vocational administrators, and 2-year college administrators perceive similarly the extensiveness of integration achieved via the various remaining integration strategies (see Table 1). One area of statistically significant difference, however, concerns the development of applied modules for use by science, math or English teachers. Over 25% of secondary programs employ this strategy in the integration of academic and vocational-technical programs whereas just over half that percentage of postsecondary/adult programs do so. This may reflect a lack of curriculum development staff in postsecondary/adult vocational programs and/or the occupational focus/expectations of adult learners.

Another area of minor difference involves the introduction of applied academics courses versus applied academic units within courses. Secondary vocational administrators perceive that slightly more programs achieve integration of academics and vocational-technical education through the introduction of applied academic courses. Postsecondary/adult administrators, however, perceive slightly more programs achieve integration of academics and vocational-technical education through the introduction of applied academic units within existing vocational courses. This perception may be the result of (a) the perceived lack of access to additional faculty/curriculum development staff in most postsecondary/adult programs, and/or (b) the perceived need of adult learners to complete an occupational program of study as rapidly as possible negating the introduction of additional academic courses in a program already constrained by time limits.

...some concern was expressed that unsatisfactory basic skills levels of entering technical program students as well as faculty resistance to change... may constitute barriers to implementing further integrated academic and vocational curricula.

When asked to indicate whether their districts or colleges were developing integrated academic and vocational curricula (see Table 2), 2-year college administrators perceive that slightly more than half of their institutions were actively developing integrated curricula whereas secondary vocational administrator and postsecondary/adult administrator respondents perceive that only a quarter of their institutions were similarly involved. While well over a third (34%) of the 2-year college administrators commented that 2-year colleges have regularly provided integrated programs, some concern was expressed that unsatisfactory basic skills levels of entering technical program students as well as faculty resistance to change (especially in the academic faculty) may constitute barriers to implementing further integrated academic and vocational curricula.

Table 2
Percentage of Respondents Developing Integrated Academic and Vocational Curricula

	Secondary Vocational Administrators (% yes)	Postsecondary/ Adult Administrators (% yes)	2-Year College Administrators (% yes)
Has your district or college developed special programs (e.g. magnet schools, staff inservice) designed to integrate academic and vocational curricula?	22.6	26.9	57.6

1=Poor, 5=Excellent

Both secondary vocational administrators and postsecondary/ adult administrators noted lack of adequate funding as the most significant barrier to integrating academic and vocational curricula followed closely by a perceived lack of time in students' schedules and lack of student perception of the need for integrated academics. One secondary vocational administrator noted that, "Students may want to focus only on skills to get a job and not desire basic academic skills." Similarly, a postsecondary/adult administrator commented that, "Adults want to become employed as quickly as possible...they have concerns learning applied academics especially when they pay a tuition to attend [to learn job skills] ..."

"Students may want to focus only on skills to get a job and not desire basic academic skills."

Selected Observations

Two-Year Colleges

Integration

- Students in computer programming at an urban community college complete a final, integrative course which involves a group research project. Students complete comprehensive research reports and present oral reports as well. Through this project students are challenged to demonstrate a variety of teamwork, critical thinking, and problem-solving skills.

An urban community college has created a committee of faculty...to address efforts to promote writing as the business of the entire college.

- An urban community college has created a committee of faculty from the college's four divisions to systematically address efforts to promote writing as the business of the entire college. The Writing Across the Curriculum (WAC) seeks to encourage positive faculty attitudes toward assigning and evaluating student writing. Specifically, the WAC Committee has assumed the following responsibilities:

  1. To be active proponents of improving the quality of college writing across the curriculum;

  2. To identify concerns of faculty regarding writing in their disciplines;

  3. To provide professional development opportunities for faculty involving writing across the curriculum;

  4. To serve as resource personnel for faculty and students regarding writing across the curriculum; and,

  5. To serve as facilitators in their own divisions to promote writing across the curriculum.

  Another community college had implemented the same program (WAC), and when interviewed, the faculty reported a positive response to the program.

Secondary Joint Vocational Schools/Career Centers and High Schools

- One urban high school integrates academic and vocational instruction primarily though its Occupational Work Adjustment (OWA) and Occupational Work Experience (OWE) programs. The OWA curriculum (generally defined as employment orientation for high school freshmen and sophomores) includes "math across the curriculum" and academic skills remediation. A broad range of vocational and academic faculty are involved directly in remedial curricula planning and development. For high school seniors only, the OWE program (generally defined as workplace externships designed to provide application of learned vocational skills and motivation to complete the high school curriculum successfully) includes "basic skills" instruction as well as remediation.

- In one suburban/rural high school, counselors contend that academic/vocational integration might be addressed more

efficaciously were vocational school students receiving academic instruction at the home high school rather than at the area joint vocational school which is the current model of delivery.

- A Career Development Mobile Unit (CDMU) sponsored by a Joint Vocational School District serving a suburban/rural area, travels to area elementary and middle schools as well as to business and industry to help potential learners identify academic as well as occupational knowledge and skills required in select occupations.

Special Populations

Services to Special Populations

In looking toward future program needs, administrators at all three levels indicated the most significant growth was likely to occur among students who were academically and economically disadvantaged. In particular, students who are financially distressed are likely to need vocational-technical education more so than others. Other groups expected to increase include students with disabilities and teen parents. The secondary vocational programs expect to experience a continued emphasis on serving teenage parents and students with disabilities, whereas the predicted need to serve both of these student groups is less strong in the adult programs and 2-year colleges. The adult and 2-year college administrators anticipate above average (substantial) enrollment increases among JTPA-eligible adults and ADC/JOBS recipients. Clearly, those students who come to postsecondary education who are poor and with limited basic skills will continue to place a heavy burden on the adult and college programs.

The study questionnaire also sought information regarding the percentage of programs that currently serve students with special needs. As noted in Table 4, a significant portion of the vocational-technical programs do serve special students at all three levels. Among the secondary JVS programs, 96% indicated they served students with disabilities, with 63% indicating they served vocational rehabilitation clients. Approximately 65-85% work closely with JTPA and JOBS programs to provide basic skills instruction, remedial assistance, and other support services. Among the adult programs, those serving JTPA and JOBS clients increases markedly to 85-90%. Among the 2-year colleges, nearly 95% work with JTPA clients and 80% with JOBS programs. In these programs, strong links are evident with vocational rehabilitation agencies for serving disabled adults. Bilingual services and programs to support vocational-technical education are prominent

in about 20-40% of the programs across the three levels. Significant concentrations of limited English proficient students and adults are found in selected communities, (e.g., the Hispanic population in Lorain and Japanese population in Dayton). Thus, one would not expect this to be a significant concern. Enrollments of limited English proficient students are not predicted to increase by the local administrators.

Table 3.
Projected 5-Year Trends in Services for Special Students

Special Student Population	Secondary Vocational Administrators	Postsecondary/ Adult Administrators	2-Year College Administrators	p value
Students with disabilities	4.11	3.85	3.76	.011*
Economically disadvantaged	4.16	4.23	4.27	
Academically disadvantaged	4.20	4.01	4.06	.209
Teen parents	4.11	3.99	3.45	.001*
Limited English proficient	3.07	3.23	3.55	.023*
Unemployed adults	3.57	4.07	4.12	.000*
Adults in need of retraining	3.78	4.33	4.50	.000*
JTPA-eligible adults	3.53	4.00	4.10	.001*
Displaced homemakers	N/A	3.81	4.03	.118
Veterans	N/A	3.38	3.50	.438
ADC/JOBS recipients	N/A	4.12	4.12	.982

Scale: 1=decrease, 2=slight decrease, 3=no change, 4=slight increase, 5=increase
*=p value significant at < .05 or less

When asked to rate the adequacy of their services for special students, most administrators indicated that the services were above the mid-range in quality (See Table 4). However, across the three levels, concern was expressed for raising the quality of bilingual education services, with particular attention to the 2-year colleges. In the 2-year colleges there also appears to be a need to improve special education transitional services for disabled youth and to strengthen support services in workplace literacy programs provided off-campus in business and industry locations.

Table 4.
Current Services and Adequacy of Special Services

Special Student Population	Secondary Vocational Administrators		Postsecondary/ Adult Administrators		2-Year College Administrators		p value
	% Serving	Service Adequacy	% Serving	Service Adequacy	% Serving	Service Adequacy	
Special education	96.3	3.86	64.4	3.78	38.7	2.92	.023
Bilingual education	37.8	2.58	40.0	2.96	22.6	2.14	.254
Vocational rehabilitation	63.4	3.10	90.0	3.43	80.6	3.17	.219
JTPA	85.4	3.42	92.2	3.72	93.5	3.69	.259
ADC/JOBS	63.4	2.93	84.4	3.44	80.6	3.71	.021*
Adult basic education	N/A	N/A	N/A	N/A	54.8	3.13	
Workplace literacy	N/A	N/A	N/A	N/A	45.2	2.86	

Scale for service adequacy: 1=low, 5=high
*=p value significant at < .05 or less

When asked to identify the major barriers to improving services to special populations, several administrators indicated that additional funding was required to both expand and improve services. Approximately 10-15% of the respondents at all three levels noted the funding barrier as problematic. However, approximately an equal number noted there were no barriers to improving services for special populations indicating either they were pleased with the existing services or that new efforts could be developed without difficulty. In the funding arena, several of those commenting noted the need for programmatic funding which would provide for more direct staff assistance, more special programs for students needing assistance outside of mainstream vocational-technical classes, and direct financial aid to students with special needs.

For the most part, it appears that funding units for special education students are retained by the high schools rather than following these students to the joint vocational school programs. This arrangement makes it difficult to serve those students who have more severe learning problems. Here again, the most common recommendation for program improvement was increased state and federal funding for special population services. However, in comparison to the other areas, relatively few respondents cited this need.

A few respondents (less than 15) indicated they had difficulty developing effective working relationships with JTPA/PIC organizations. The specific nature of these difficulties was not clear from the responses. However, roughly 15% of the respondents suggested that interagency coordination and cooperation for delivering special student services needed improvement.

Selected Observations

Special Populations

Typically, high schools have a variety of services for students who are at-risk...

Typically, high schools have a variety of services for students who are at-risk, disadvantaged, and/or disabled. For example, one of the urban high schools visited provides extensive support services for learning disabled students who are mainstreamed into vocational classes. Tutors and resource teachers work closely with identified students in test taking and remedial sessions. In addition, the high school has a job coordinator who provides placement services for special needs students, academic/vocational counselors, pre-natal and child care instruction, specialized teachers who serve as "case managers" to assist students in acquiring needed services from community agencies, and an "at-risk" coordinator who is an instructor on a special assignment. Recently, the school initiated a special

..."[special needs students] were able to achieve more demonstrable success in the JVS programs..."

program with a local clinic which provides a part-time (3-4 hours per week) personal/social services counselor. This individual receives referrals from faculty and staff for students considered to be "at-risk". Students may see the counselor up to three times without charge or parent/guardian notification. The school's "intervention team" composed of administrators and faculty meets twice monthly to process requests for service from the counselor.

One of the rural high school counselors interviewed during the community case studies indicated that the JVS was the primary service available to special needs students. Because of low levels of reading and math achievement, most of the students electing to attend the JVS are classified as special needs students. It was noted that "these students were able to achieve more demonstrable success in the JVS programs than in either the high school's general curriculum or college prep program."

At one of the 2-year colleges a college preparation program has been developed jointly with a local high school to encourage disadvantaged students to included college in their future plans. Begun in 1987, the program enrolls 30 freshman students annually and puts them through a special curriculum that is block scheduled in grades 9-11 and integrates math/science and English/social studies. A senior seminar course provides students with college success skills (e.g., study skills and time management techniques), career/education planning, and assistance in completing college applications. The community college hosts sessions during the summer for teachers in the program to assist them in curriculum development and planning. High school teachers are paid a stipend for attending. During the year the college hosts special events for the students such as tours, receptions for students and their parents, in-school presentations, and hands-on experiences. Scholarships are also offered by the college as an incentive to keep students enrolled in high school. In the first class of high school graduates, 15 of the 21 graduates enrolled in a higher education program the following September, 1990. Programs such as this appear to be highly successful in reaching the needs of the growing population of students who often encounter difficulties in school because of their minority or economic status.

B & I Involvement

Business and Industry Involvement

One of the key issues facing vocational-technical education at all levels throughout the U.S. is the need for close involvement with business and industry. Ohio is not unique in this regard. Depending upon on the institutional mission and educational philosophy, a variety of different types of involvement with business and industry may be appropriate. A rich array of activities which involve both students and faculty members from the schools and two-year colleges directly with business and industry operations is possible. As noted below, the community case studies outlined several interesting possibilities.

Table 5
Extent of Business and Industry Involvement, Means and Rank Order of Involvement Strategies

Involvement Strategies	Secondary Vocational Administrators	Postsecondary/ Adult Administrators	2-Year College Administrators	p value
Involving business representatives on active advisory committees	4.54 (1)	4.46 (1)	4.50 (1)	.833
Placing students in co-op education positions	4.30 (2)	3.14	3.03	.000*
Providing job placement services	3.93	3.83	3.82	.818
Providing customized training programs	3.25	4.25 (2)	4.18 (3)	.000*
Obtaining equipment and other current resources for institutions	3.53	3.15	3.24	.083
Using guest lecturers from business and labor	3.63	3.54	3.27	.28
Providing apprenticeship training	2.80	3.36	2.18	.000*
Using employees as mentors	2.67	2.51	2.09	.119
Involving business, industry, and labor in curriculum development	3.43	3.46	3.15	
Providing faculty internships	N/A	N/A	1.69	

Extensiveness of business and industry involvement scale:
0=Not at all, 6=A Great Deal
*=p value significant at .05 or less

...administrators at all three levels report having extensive involvement with business and labor representatives through active advisory committees.

As Table 5 indicates, administrators at all three levels report having extensive involvement with business and labor representatives through active advisory committees. On a 5-point scale ranging from poor to excellent, the average score was 4.5 for involvement of business and industry representatives in active advisory committees. Advisory committees have long been cited in the literature and in Ohio administrative guidelines as a central feature of an effective program. While the survey data indicated that these committees are used extensively, some of the community case studies revealed that committees often meet only once or twice a year, and that their primary purpose was to review proposed changes in curriculum or to meet the minimum state requirements for involving business, industry, and labor representatives in VEPD Strategic Planning.

While the administrators reported the use of advisory committees was extensive, overall quality of business and industry involvement was rated only 3.4--3.8 on a 5-point scale with 5 being "excellent". With a mean score of 3.44, the adult program administrators indicated the most significant need for overall improvement in this area. The administrators from the 2-year colleges, on the other hand, reported an overall mean of 3.88. The statistical difference in these mean scores reached the .06 level, indicating that in 94% of the population of administrators the quality of business involvement in the adult programs is distinctly different from that found in the 2-year colleges. Whether or not the level of involvement is inferior and jeopardizes the possibility of maintaining a quality program depends on one's interpretation of the standards for private sector involvement.

Table 6
Overall Quality of Business, Industry, and Labor Involvement

	Secondary Vocational Administrators	Postsecondary/ Adult Administrators	2-Year College Administrators	p value
Overall quality of business, industry, and labor involvement	3.64	3.44	3.88	.061

1=Poor, 5=Excellent

Clearly, the adult and 2-year college programs have more direct links to business and industry practices through worker update programs than do the secondary programs in Ohio.

The survey data indicate that the secondary programs are much more likely to place their students in cooperative training positions than are the adult or 2-year programs. This difference is statistically significant at the .001 level, which clearly suggests that, in comparison, adult or postsecondary students are much less likely to have the opportunity to complete supervised internships as part of their programs. It should be noted that many adult and postsecondary students also work on a part-time basis, making it difficult to complete internships for credit. However, internships and other forms of experiential learning in business and industry settings are now regarded by many cognitive and learning psychologists as essential for bridging learning from school to non-school settings.

The 2-year colleges and the adult program are more actively involved in providing customized training programs for business and industry than are the secondary programs. By having faculty members engaged in working directly in programs designed to upgrade worker competencies in new technologies, they are more likely to be current in their on-going instructional and curriculum development endeavors. However, this logic becomes faulty if adult and postsecondary programs use adjunct or part-time instructors only in their customized training programs. Clearly, the adult and 2-year college programs have more direct links to business and industry practices through worker updating programs than do the secondary programs in Ohio.

Relative to apprenticeship training, which has historically been another formal link between education and business, the adult programs clearly report more activity in this arena than do the 2-year programs. The difference between these two programs is statistically significant at the .001 level. However, it should be noted that the adult programs report their involvement in apprenticeship training at only a moderate level (i.e., 3.3 on a 5-point scale where 5 is "a great deal" and 1 is "none"). With the decline in the manufacturing industry throughout Ohio and the upper Midwest, the number of industries offering apprenticeship programs has declined markedly over the past decade.

Many of the other innovative approaches for engaging business and industry in vocational education programming are receiving only limited attention in Ohio. Relatively few programs appear to be asking business and industry to provide mentors for students or instructors. Other involvement strategies with ratings of 3.1--3.8 include: involving business, industry and labor in curriculum development; using guest lecturers from business and industry; providing job placement services; and obtaining equipment and other resources for instruction. Relatively

few of the 2-year colleges are providing faculty internships or sabbaticals in the private sector.

Barriers: 1) difficult to obtain commitments of time and resources; 2)funding cutbacks

When asked to identify the major barriers to improving the involvement of business and industry, several significant issues were cited. Two concerns appeared to dominate the comments however.

- It is difficult to obtain commitments of time and resources from the private sector. From the administrators' perspective, business leaders simply do not see their involvement in vocational education as having long-term benefits and payoffs. Hence, they are unwilling or hesitant to honor the requests for faculty internships, employees to serve as mentors or classroom consultants, and so on.

- The administrators note that funding cutbacks have drastically reduced the staff time available to develop and nurture effective relationships with the private sector. Educational institutions at all levels have tended to cut out the duties traditionally assigned to instructors and administrators for developing cooperative work stations, consulting with employers regarding skill needs, maintaining job placement services, and other functions that required interaction between educators and business and labor personnel.

The economy is another factor which affects collaboration between the business community and the educational community.

The economy is another factor which affects collaboration between the business community and the educational community. Several administrators reported that unemployment and layoffs had a considerable impact on their ability to place students in jobs and to engage business leaders in educational concerns. During recessionary periods, employers are primarily concerned with the fiscal strategies that will enhance their productivity directly. Often improving education and training programs or opportunities for employees is seen as an unaffordable luxury. In a similar vein, responses from rural areas indicated that in some areas of Ohio very few traditional manufacturing and related businesses are present. Involving the small, family-run business in educational issues is extremely difficult in rural areas. Also, extreme conditions of poverty found in some areas of the state make the development of business and industry infrastructure highly problematic.

A wide array of suggested improvements for engaging business and industry in vocational-technical education was offered. Among the most frequently cited needed improvements were:

1. Improve the image and perceived importance of vocational-technical education programs through public information and marketing campaigns.

2. Establish a higher priority for funding to support enhanced business-education collaboration.

3. Initiate new efforts and plans with the private sector which provide them with assurances that their input will be used to bring substantive reforms to education and training programs. These new and/or expanded efforts must generate sufficient commitments of time and resources from business leaders.

Selected Observations

Business & Industry Collaboration

One of the urban high schools reviewed in the study has developed a comprehensive array of innovative partnerships. The interaction with business, industry and labor occurs via: career program advisory committees, guest lectures by practicing professionals and occupational specialists, field trips to local businesses, collaborative breakfasts or luncheons wherein students meet with representatives of selected businesses and industries, and specific adopt-a-school partnerships.

One of the rural high schools visited has extensive involvement of students in cooperative vocational education programs in which students receive instruction and wages while working in part-time positions related to completed vocational coursework. In addition, the local businesses supply counselors with listings of potential employment opportunities (e.g., summer, part-time).

At one of the JVSs, the recent development of an apprenticeship skill upgrading program was described as a collaborative activity. Through a special grant, a training program was developed and offered to upgrade the welding skills of 15 journeyman bricklayers. Members of the union local were involved in the design of the 50-hour curriculum and the JVS delivered the instruction. The JVS had also developed customized, in-house office training programs for several local businesses in such software applications as Lotus 1-2-3, WordPerfect and WordStar. The JVS purchased computers and printers which are moved from location to location as the contracted training is completed.

Over 140 organizations have contracted for college credit courses, seminars, or non-credit programs...

The urban 2-year college visited by the evaluation team is actively involved in a variety of collaborative activities with business, industry government, health organizations, and organized labor. The college has a comprehensive business and training program which meets the developmental needs of local organizations through both standard and customized training programs. Over 140 organizations have contracted for college credit courses, seminars, or non-credit programs in such areas as: supervisory training, computer literacy, fiber optics, quality assurance programs, and train-the-trainers. The director of business and industry training reports directly to the president of the college signifying an institutional commitment to meeting the needs of business and industry with unnecessary red-tape and excessive cost. In addition, the college has a radiation technology program which utilizes hospital-based clinical instruction extensively with the college faculty providing the related technical instruction on campus. This program maximizes the use of expensive, high-technology equipment and clinical experiences that are available only in health care settings.

Articulation

Program Articulation

In the survey of administrators, information was sought regarding the types of articulation agreements that were in place between secondary, postsecondary/adult, and 2-year college programs. Results are summarized in Table 7.

A promising strategy for nurturing articulation in the long run is the formation of joint advisory committees.

Advanced placement was the most common articulation strategy reported by all three levels followed by the granting of dual high school and college credit.

Two-year college administrators reported a much higher frequency for facility and equipment sharing and a much lower frequency of standing articulation committees. Two-year colleges also reported significantly less articulation related to apprenticeship programs than the other two levels.

A promising strategy for nurturing articulation in the long run is the formation of joint advisory committees. These were reportedly very rare. No joint advisory committees were reported by secondary vocational administrators nor adult administrators.

Table 7
Extent of Secondary/Postsecondary/Two-year College Program Articulation

	Secondary Vocational Administrators	Postsecondary/ Adult Administrators	2-Year College Administrators
	(% yes)	(% yes)	(% yes)
Does your program (college) have articulation agreements in place with one or more postsecondary (secondary) institutions?	87.9 (N=83)	50.6 (N=81)	66.6 (N=33)
Provisions of Agreements			
Dual high school and college credit	67.4	52.1 [1]	63.6
Advanced placement	86.5	58.5	81.8
Access to apprenticeship programs	35.4	39.7	3.0
Sequential courses at the postsecondary level	39.2	37.5	21.2
Standing articulation committees	51.3	43.9	18.2
Sharing of equipment or facilities	27.5	26.8	45.5
Joint advisory committees	N/A	N/A	12.1
Training of secondary instructors	N/A	N/A	37.5
Conducting vocational student organization competitions	N/A	N/A	32.2

[1] Approximately 23-28 of the 90 Postsecondary/Adult administrators (25%-31%) who submitted surveys chose not to provide answers to these questions.

About half (52%) of the adult administrators reported articulation agreements in place with one or more postsecondary institutions. This was somewhat less than the 2-year college administrators (63%) and considerably less than the secondary vocational administrators (91%). What is most interesting is that 1/4 to 1/3 of the adult administrators did not respond to the questions on the provisions of articulation agreements. The reason for the high rate of non-response to the particulars is not known. It can be speculated that the administrators were not familiar with the provisions and/or that they responded in the affirmative assuming that it was the "right" answer. In either case, it suggests a low profile for articulation with postsecondary institutions. Further, it casts some suspicion on the accuracy of the 52% figure for articulation agreements between adult programs and postsecondary institutions. The question posed to the 2-year college administrators did not ask specifically for the number of articulation agreements the colleges have with adult programs, only secondary institutions in general. That may account for the higher than expected figure of 52%.

Responses to these forced-choice questions on types of articulation agreements were consistent with the open-ended queries relative to articulation barriers and solutions discussed in the two previous sections.

Barriers

Barriers to Articulation. Administrators were asked to respond to the following open-ended question: *In your community, what are the barriers or impediments to expanding articulation agreements with secondary programs?*

Secondary vocational education administrators identified lack of time as the major barrier. Turf protection was identified second most frequently, followed by lack of interest and rigidity at the postsecondary level in accepting secondary coursework. One respondent said the major barrier to articulation was, "Postsecondary reluctance to issue dual credit or award advanced placement. {They} prefer a test-out procedure which is available to everyone." Several said there were no barriers, that articulation was working satisfactorily or well.

Adult program administrators identified three major barriers to articulation

Adult administrators identified three major barriers with equal frequency: lack of time; competition between JVSs and 2-year colleges for students; and a non-cooperative attitude from the postsecondary level. One adult program administrator noted, "The attitude conveyed by postsecondary programs is that they are going to take over adult

vocational {programs}. {It is} difficult to negotiate with a piranha." Another said, "The community colleges usually don't want to talk with us unless it's to their advantage. They want to take over all adult training."

Administrators from the 2-year colleges had a relatively high rate of non-response to the question--25%. Both of the other groups had 100% response rates to the question. Two-year college administrators thus generally cited fewer barriers to articulation than the respondents from the other two groups. Several said there were no barriers, that articulation was working satisfactorily or well. Lack of time was cited most frequently along with a concern that might be termed lack of quality assurance in secondary student attainment. Items grouped into this category included "lack of assurance that secondary competency merits awarding of credit". One respondent indicated, "The high schools and the JVSs want college credit for courses taken rather than for student accomplishment. Their courses, on the whole, do not measure up to the college level. The students tend to be poorly prepared, except those in college prep programs. College prep is far better for a technology student than is vocational training."

Almost none of the comments discussed articulation in the broader sense of helping students move successfully from one level of education to the other with maximum ease and with a minimum of duplication.

Another 2-year college administrator identified the major barrier as "demands for free (unearned) credit." One cited the "lack of a means of evaluating student competencies as a major barrier." Another said, "Unless the high school work is AP (Advanced Placement, with national exams, etc.), there is no automatic dual credit. Never will be at this university (and I don't think there should be.) Either we are postsecondary, with higher goals and harder courses with greater expectations, or we're not."

These comments seem to indicate that articulation, in the minds of many 2-year college educators is synonymous with dual credit and/or advanced placement. Almost none of the comments discussed articulation in the broader sense of helping students move successfully from one level of education to the other with maximum ease and with a minimum of duplication.

A major barrier cited by all three levels was "lack of time". Thus, any policy changes must be made with the assumption that meaningful progress in articulation can be made only when funds are made available or re-allocated to "purchase" local instructional and supervisory staff time.

Improvements Needed

Improvements Needed. When secondary vocational education administrators were asked what major improvements in articulation were needed (if any), the most frequent response was for additional funding primarily to enable instructional and supervisory staff to focus their efforts on articulation. The second most frequently cited improvement was the need to clarify roles among the educational levels, including eliminating duplication. One suggested distinguishing, ". . . what should be made available through public schools (expertise, equipment, etc.). {Then} what is generally not available should be offered by technical/community colleges."

Solutions posed by the adult administrators related first to the need to clarify roles among educational levels, very similar to what the secondary administrators posed. Closely related was the need for funding staff and the need to bring instructional staff from different levels together on articulation. One respondent said, "Adult vocational and technical schools in the area need to begin a dialogue. We don't know enough about each other's programs."

Two-year college administrators ... did recommend strengthening the academic preparation of secondary students...

Two-year college administrators, while suggesting relatively few improvements, did recommend strengthening the academic preparation of secondary students, both regular high school and JVS students.

Several institutions at each of the three levels indicated that there were active articulation programs between secondary and postsecondary institutions, but these "success stories" were in the minority.

Selected Observations

Articulation

The site visits led the researchers to five conclusions about program articulation. They are:

1. There is duplication of services and competition primarily between the JVS adult programs, high schools offering adult programs, and the 2-year colleges.

2. There is fierce competition for students between the JVSs and regular high schools.

3. Students are forced into an all - or nothing choice in high school. They must choose between attending their local high school or preparing for a career at a JVS.

4. Leadership specifically designated for articulation is generally absent. Articulation efforts are uneven and commonly dependent on local personalities.

5. Relatively few JVS graduates subsequently attend 2-year colleges. Those who do commonly find that they are deficient in general education skills needed in college programs, particularly in math.

Duplication of services and competition exists between JVS adult programs, and high schools for adult students who need skill training or upgrading, but not necessarily a degree. One JVS the researchers visited hoped to "stop the flow" of revenues lost by decreasing numbers of high school enrollees by attracting more adults into vocational training programs. This effort was taking place within several minutes' drive time of a community college. A comprehensive high school, not part of a JVS district, was offering vocational courses for adults even though a technical college was nearby. A community that recognized the problem of duplication and the potential for involving businesses interested in employee training established a local consortium to coordinate their efforts and services. The Education/Training Consortium includes as members the local community college, the high school, and the county JVS. The Consortium's Executive Director directs businesses to the educational institution most likely to meet their instructional needs. The Consortium also sets standard fees for courses and handles much of the paperwork for the training. The local consortium is a voluntary arrangement and appears to be a promising strategy for reducing duplication and competition in adult training services. However, in Ohio it appears to be a rare occurrence.

The local consortium is a voluntary arrangement and appears to be a promising strategy for reducing duplication...

Local high schools and the JVSs compete for the same students. Whichever institution a student selects receives state aid for that student. Thus, each student who elects career preparation at a JVS represents a loss of resources for the local high school. Not surprisingly, this has resulted in cool, if not hostile, relationships. During the on-site interviews, students reported that principals and counselors at the local high schools discouraged them from attending the JVS. One principal was quoted as saying the JVS was for "losers". A JVS Director noted that counselors from the local high school refused to go on tours of the JVS facility that were scheduled as part of an inservice day.

The current organizational structure of the regular high schools and the JVSs forces students to choose all or nothing relative to vocational preparation. If they attend a JVS, most are jettisoned by their home high school. Student comments included:

> *I couldn't play on my high school volleyball team if I attended JVS, but I decided that education was more important than sports.*
>
> *I couldn't retain my place in the high school band.*
>
> *Our high school made up "Senior Sweatshirts" with all the seniors names on it. Our names {those at the JVS} were not on it.*
>
> *We are not in the yearbook; we couldn't even order a yearbook.*

Articulation leadership appears to vary considerably throughout the state. At one site the researchers were told that the progress in local articulation was due to a new community college president who made it a priority. At the same site, high school teachers reported that articulation efforts varied in intensity and effectiveness by departments at the college. Where articulation was generally perceived as effective, one individual was charged with responsibility (and provided with time and resources) for articulation. This kind of leader, specifically designated for articulation seems to be rare.

...on-going articulation requires local administrative leadership...

The degree to which articulation is dependent upon local personalities was confirmed in the mail survey in which specific individuals were cited as the "barrier" to articulation. In short, on-going articulation requires local administrative leadership, which varied considerably among the community case studies.

The researchers were struck by the rarity of JVS graduates in student groups interviewed at the 2-year colleges. We concluded from this that JVS students are generally not prepared to continue their education at the postsecondary level. One of the few JVS graduates reported the difficulties he was having with math at the technical college. "I hadn't had any math since I was in the tenth grade." Students being interviewed were asked why they thought more JVS students did not enroll in 2-year colleges. One common response was, "JVS is for a job, not necessarily for a career." Other students said, "There's a stereotype that JVS is easier, that people go there to get out

of taking 'Government'." Still others said, "If you don't have good grades in high school, counselors push you to the JVS."

In the responses to the survey, a 2-year college administrator reinforced the lack of continuity between secondary level vocational education and postsecondary technical education. "College technical education is hampered by the focus on JVS rather than comprehensive high schools."

In reviewing the 1990 Ohio job placement data for vocational education completers, it was found that only 10% of the secondary vocational education completers continued their education. No breakdown was provided to indicate how many continued with a technical program or pursued a four-year degree program. Since there are no national statistics on this matter, a comparison can be made to the state of Wisconsin. In Wisconsin, approximately 60% of the high school completers pursue postsecondary education of some sort immediately following high school graduation. Approximately 11% pursue a technical college degree or certificate program. The Department of Public Instruction in Wisconsin has confirmed these data as similar to the trends found in other states. Clearly, Ohio's secondary vocational education programs must place a higher priority on assuring that a greater percentage of graduates are prepared to enter the community or technical college programs to prepare for careers that require advanced knowledge and skill. The comments provided by a small number of students in the preceding paragraphs clearly indicate that students elect to attend the JVS for all the wrong reasons. Without adequate levels of skills and knowledge which prepare high school graduates to do <u>both</u> enter the workforce and pursue further education and training, students will be ill prepared to work in the 21st century.

Governance

Governance Issues

The issue of how the Ohio Board of Regents and the State Department of Education should jointly administer federal funds was a major topic of concern in both the survey responses and the community case studies. The administrators in the 2-year colleges feel strongly that the adult employment training programs operated by the ODE compete directly with the associate degree and noncredit job training programs offered by Ohio's 23 community and technical colleges. Conversely, the secondary adult program administrators have long-established programs that have served adults both in and out of the work force quite effectively. In 1990, the full-time adult programs served nearly 68,000 individuals in technical training programs lasting one year or less. The community and technical colleges, on the other hand, enrolled nearly 21,000 students who were pursuing associate degrees in technical fields. In both programs about 1/3 of the students are identified as economically or academically disadvantaged, so the conventional wisdom that the adult programs serve the less able students is unfounded.

...the turf issues have been in existence for much too long, and now the financial pressures on both systems demand some resolution ...

Several key observations were offered by the survey respondents on this issue. Several suggested that the State should clearly delineate which agency is fully responsible for serving the expanding worker retraining and upgrading needs of adults in Ohio. Comments noted that the turf issues have been in existence for much too long, and now the financial pressures on both systems demand some resolution to the problem. The argument concerning costly duplication of facilities was noted by several respondents. Further, some argue that the intense competition for students causes program standards to be reduced in a period when higher, not lower levels of skill are demanded in the work place. One commenter noted that all three vocational-technical education systems want to do everything for everyone which leads to excessive duplication and confusion for the general public.

As one would expect, several 2-year college administrators advocated for naming the Ohio Board of Regents as the sole state agency responsible for the administration of federal funds. Others argued that the 2-year colleges should receive a share of federal funds that is consistent with their share of the total vocational-technical education enrollment. The suggestion that all adult programs be placed under the auspices of the OBR was made by several respondents. In general, the feelings expressed by those responding to the surveys was

that coordination and cooperation between the OBR and the SDE must be improved. Others went as far as to suggest that increased coordination is needed among all systems providing education and training for employment, including welfare/JOBS, JTPA, and higher education. One respondent expressed the need quite clearly by calling for the state to mandate a unified, life long education system among the existing entities.

Some of the adult administrators raised concerns regarding the movement of the 2-year colleges into vocational education program areas that have traditionally been under their aegis, e.g., EMT and practical nursing. Several colleges are now offering these courses and programs for college credit.

More commonly, however, the adult administrators were concerned about improved coordination with the secondary JVS programs. Several respondents noted that adult programs are often seen as having lower priority for use of facilities and access to equipment. Additionally, state funds for adult programs are only half compared to the state foundation funding allocation for the secondary vocational education programs. In addition, others commented about the restrictions placed on the use of funds allocated for secondary programs for developing the growth area of part-time adult programs.

Fiscal

Fiscal Issues

The major concern of many adult administrators was the lack of fiscal support for their programs. Many of the comments focus solely on increasing the unit funding for adult vocational education programs to a level where student tuition is not excessive compared to the cost of technical or community college credit. Several commenters suggested that the unit funding level for adult programs should be raised to the level of 2/3 of the unit funding for secondary programs as a minimum.

Recurring theme: *lack of fiscal support*

However, the lack of financial support for programs overall was a central concern for the educational community. Beyond the fiscal concerns of those administering adult programs, survey respondents noted several instances where funding cuts have reduced the number of students placed in business and industry for learning experiences, truncated the services provided to special students, eliminated opportunities for teachers and administrators to attend workshops and conferences, and so on. During the community case studies, the recurring theme in nearly every discussion was the implications of

funding cuts. These cuts have direct and substantial impact on the program offerings and services. For instance, at one high school, the vocational coordinator has retired the previous years and the duties had been re-assigned to a guidance counselor. The counselor had difficulty locating the records for the program, including the information indicating which course offerings where available at the local JVS/career center.

When asked what recommendations are appropriate for strengthening vocational-technical education in Ohio, the most frequent response was "increased funding". While those interviewed and responding to the survey had different views on where the funds should come from, the consensus response was that additional funding is required if program quality is to be restored. Interestingly, little attention was given to re-ordering priorities for the use of existing resources. The case study participants and survey respondents did not talk extensively about doing things differently with the federal and state funds they currently receive.

Image & Marketing

Image and Marketing Issues

Noted frequently among the survey comments was a major concern relative to the image of vocational-technical education. While it was prominent among the concerns of 2-year college administrators, it was a crucial concern of secondary and adult administrators. The "second-class" image of vocational-technical programs, when compared to college prep or transfer programs, creates significant problems. According to the survey respondents and the community case study interviewees, most students, their parents, and guidance counselors do not see the opportunities and benefits provided by vocational education programs as substantial. Others noted that as the participation of special population students has grown, vocational programs have been seen as less rigorous academically and viewed by many as a program for "someone else's child, not mine." The frequently used distinction about the skills needed by people who work with their hands versus those who work with their minds was heard in many of the case study discussions. In general, graduates of vocational education are seen as simply entering the labor market and performing the routine, mundane jobs which do not require high levels of skill and knowledge.

In general, graduates of vocational education are seen as simply entering the labor market and performing the routine, mundane jobs which do not require high levels of skill and knowledge.

Several interviewees and survey respondents noted the importance of current initiatives from the Ohio Board of Education to upgrade the image of vocational education. Most frequently noted was the Ohio Plan to Accelerate the Modernization of Vocational Education.

Several commenters felt the plan offered some positive direction toward improving the image of the field through a better understanding of the role that vocational education plays in Ohio's economic future. Additionally, others expressed the view that while the Modernization Plan was a positive thrust, more time (and resources) was needed to achieve full implementation.

During the community case studies, numerous initiatives were described which focused on the issue of image enhancement and sought to re-orient the general views of vocational education described above. One of the JVS/Career Centers was planning to offer in 1991-92 a one-year, one-credit program entitled College-Prep Business. The course was designed for seniors planning to major in business fields when they attend college. The course will introduce seniors to spread sheets, data processing, computer-based information systems, and provide an orientation to different careers in the business field. On the surveys, administrators reported that high schools had been redesignated as career magnet schools in some of Ohio's larger communities.

The concern for improving the image and importance of vocational-technical education has also been picked up by selected business and industry associations in Ohio. The Printing Industry of Ohio, Inc., for example, has launched a major public information campaign to inform students and guidance counselors about career opportunities in the graphic communications industry. The colorful informational materials include a handbook for high school students which describes careers, educational requirements, and worklife in the graphic communications industry, as well as a coloring book for elementary-age students that describes the various career opportunities. The handbook for high school students emphasizes the need for post-secondary education and identifies two and four-year programs in Ohio where majors in graphic communications can be taken. Representatives from the Education and Recruitment Committee of the Association have undertaken extensive efforts to interact with students and counselors at career fairs/college nights, guest lectures, and professional conferences for counselors. In a suburban area, a group of employers formed the Metal Trades Education Council to address the shortage of skilled metalworkers. The leader of the Council is a chief executive officer of a local corporation. He indicated, "Our company can't grow because we don't have the labor force. We have the potential to do a lot more business, but first we need the workers." Thus, the Council is addressing the problems by promoting the occupation to young people as a viable economic choice and countering

the image of the occupation as "dirty and dangerous". These and other initiatives reflect the growing concern among Ohio business and industry leaders for preparing a highly skilled workforce.

Evaluation & Account-ability

Evaluation and Accountability Issues

Comments from the survey respondents noted that significant shifts should occur in evaluation criteria for vocational-technical education programs. Traditionally, vocational programs have been evaluated based on the employment and earnings rates of graduates. Requirements for evaluation of secondary and adult programs have been directed through the PRIDE (Program Review for Improvement, Development and Expansion) system, which has required local administrators to carefully review the components of their programs based on placement and other types of information. Commenters on the survey indicated that greater attention must be given to assessing all student outcomes, rather than simply noting whether or not students are employed in the field in which they received training.

Traditionally, vocational programs have been evaluated based on the employment and earning rate of graduates.

Concern was also expressed regarding the limited focus on evaluation in the technical programs operated by the 2-year colleges. The implication was that these programs are less accountable for student outcomes when they are reviewed only by accreditation teams periodically. The introduction of performance measures and standards, which are required by the new Federal Vocational Education Act, and the new outcome orientation taken by the North Central Association were seen by some as a move in the right direction.

In any accountability program to be adopted by either system should include new measures of effectiveness and efficiency. To accomplish this, both systems will have to work toward:

- uniform definitions across workforce education and training programs;
- common course descriptions by all providers to facilitate analysis and student transfer;
- uniform, common reporting requirements;
- a certificate of initial mastery which attests to the individual's competence in subjects taken;

- expanded surveys of employers and former students to determine levels of satisfaction with workforce education and training programs;

- clearly defined roles for the participation of the business sector in ensuring that students are trained for and able to hold jobs;

- actions which ensure that teachers' skills and knowledge are up-to-date;

- establishment of measurable goals for target group access and the provision of support services; and

- holding the OBR and ODE and their respective boards accountable to the Governor and the Legislature for delivering quality workforce education and training.

An Agenda for Leadership

POLICY RECOMMENDATIONS

In this Agenda for Leadership, six major conclusions are provided. These conclusions integrate the findings across the four major target areas of the study and provide a framework for both state and local policy recommendations.

Given the diversity of Ohio's economy and educational needs, the intent of the recommendations is to provide processes that will empower policymakers and leaders at both the state and local levels. Processes such as effective strategic planning and interagency coordination will help to identify local, specific issues and develop appropriate initiatives for directing vocational-technical education programs in appropriate directions. In addition, these recommended processes require that a broader set of participants take ownership in the matter of preparing Ohio's future work force adequately.

Major Conclusions and Recommendations

Conclusion

1. **Vocational-technical education programs governed by the Ohio Department of Education and the Ohio Board of Regents are, at best, only loosely coordinated, which results in intense competition for both secondary and adult students. Associated with this competition could be some notable duplication of programs and inefficient use of public resources.**

Policy Recommendations

1.1 The newly created Governor's Education Management Council should strongly consider formulating a master plan for the regional coordination of education for work in Ohio. An inter-governmental working group appointed and overseen by the Education Management Council should undertake several tasks:

- Develop a long-range, strategic plan for vocational, technical and adult education;
- Act as a central point of review for all policy and planning initiatives associated with workforce education

and training matters in Ohio, including appropriations requests;

- Provide policy input and recommendations to the Governor and the Legislature;
- Oversee coordination of workforce education and training programs offered by the OBR, ODE, Corrections, proprietary schools, and apprenticeship agencies.
- Provide advocacy for workforce education and training initiatives;
- Establish requirements for a common data system and/or data elements.
- Conduct or commission a biennial review of outcomes and implementation of the strategic, long-range plan; and
- Review and comment on the program evaluation criteria, methods, and processes used by workforce education and training programs.

With these initiatives, the Interagency Work Group and the Governor's Educational Management Council would have a more integrated and coordinated approach to workfore education and training in Ohio.

1.2 A major intergovernmental review of agency and program mission statements should be undertaken. The current mission statements of the State Board of Education, Division of Vocational and Career Education and the Ohio Board of Regents do not contain language describing their coordination responsibilities. Relative to the coordination of education, training, and economic development initiatives, the mission statements of these agencies are not specific regarding how various programs are to be interfaced at the planning, implementation, or evaluation levels. Any proposed changes to the agency mission statements should be reviewed and endorsed by the Governor's Education Management Council as noted above.

1.3 Given the rapid rate of technological change and the resulting increased requirements for learning at work, greater access to continuing education opportunities for adults wor[illegible]ers is needed statewide. New models for providing continuing e[illegible]ion

opportunities to vocational-technical program graduates in response to growing demands for higher order academic skills should be incorporated in program designs. Traditionally, vocational-technical programs have been regarded as "terminal" programs with little opportunity for credit transfer and very little attention to life-long learning requirements. Given the rapidly escalating demands for workers with skills which may be obsolete in years rather than in decades, and vocational-technical educators at both levels should be working toward dual credit and advanced placement incentives for students, as well as joint programs with employers which assure that students completing vocational-technical education programs will have further opportunities to learn advanced technical, academic, and general workplace skills under the auspices of the employer.

Conclusion

2. With the erosion of the manufacturing base for Ohio's industry and the advent of the high-tech information society, the public's image of the importance of vocational-technical education has diminished considerably. The general public and much of the education community does not have a clear understanding of the new, technological skills and knowledge required to successfully enter today's workplace. Parents, counselors, and educational leaders (including school board members) no longer see vocational education as a viable, socially acceptable alternative for all students as they did in the 1970s and early 1980s. While many would contend that vocational education has always had an image problem, it is clearly an issue that now has a profound influence on all aspects of the high school curriculum. While less severe, the 2-year college administrators report that the problem exists in the technical and community colleges as well.

Policy Recommendations

2.1 The State should consider offering tax incentives rather than tax exemptions to major industries and corporations to activate their interest in and and support of workforce education and training. These incentives could be in the form of credits or deductions to users of the educational systems that provide workforce education and training. This incentive would be especially useful for retraining in new techniques and technologies, as well as to provide more training resources for small businesses who are often unable to support inhouse training programs. In addition, a tax credit could be given for donation of modern, high cost equipment. This credit would also cover equipment in the business setting which is shared with educational institutions. Additionally, incentives should be created which encourage businesses to develop promotional and informational

campaigns which encourage youth and adults to pursue technical education programs. Such efforts will be instrumental in convincing parents, guidance counselors, students, and the general public that careers in technical fields are challenging, productive, and rewarding.

2.2 Where appropriate, the Joint Vocational Schools and Career Centers should be authorized and funded to offer advanced academic courses (e.g. the third and fourth year of foreign language, calculus, etc.). In particular, this would assist rural schools in offering a broader array of courses.

2.3 The recent efforts of selected urban districts to develop career magnet schools and specialized career centers focusing on high-tech careers in fields such as health careers, engineering, computer and information systems, and agricultural sciences should be studied and replicated. In these programs, the careful blending of mathematics, science, English and social studies courses is essential so that students acquire the essential core competencies and knowledge for entering a technical or professional field. Extensive support from the business sector and organized labor is also an imperative if the curriculum is to have relevance to the workplace.

2.4 Faculty members in vocational-technical education along with their program advisory committees need to develop strategies which will make clear to learners and their families and specific relevance of additional academic instruction in all occupational programs. Students and general community members (including student families)are often unaware of the changing occupational competencies required by emerging technology. As a result, students and parents often are unable to see the relevance of additional instruction in such applied academic areas as communications and computation. Historically, vocational programs have designed responsive curricula to meet the entry-level demands of area employers (as represented on mandated program advisory committees). Though vocational faculty and area employers have been privy to the higher order skills required by entry-level workers for some time, they have been unsuccessful largely in translating the demand for these higher order skills to current learners and their families.

Conclusion

3. Major efforts to rejuvenate and reform vocational education, particularly at the secondary level, have been initiated by the Ohio Department of Education. However, funding and staffing reductions appear to have severely limited the prospects of rapid reform in many communities.

Policy Recommendations

3.1 The Ohio Board of Education should continue its efforts to implement the Action Plan for Accelerating the Modernization of Vocational Education. The Plan should be reviewed by the Governor's Educational Management Council to determine the extent to which the imperatives pertaining to the development of strategic alliances have been accomplished. Where appropriate, the Council should embrace the elements of the Action Plan which are consistent with coordinated planning and program delivery.

3.2 Available state and federal funds for vocational-technical education programs should be directed more heavily toward program improvement, and away from program maintenance.

3.3 The Inter-Governmental Work Group specified in Recommendation 1.1 should be charged with developing a set of fiscal alternatives for re-allocating resources to accomplish the shared goals of workforce education and training in Ohio. These alternatives and strategies should emphasize the need for greater flexibility at the local and regional level in the use of federal and state funds to meet emerging priorities. Priorities should be established which encourage initiatives such as the following: consolidation of Vocational Education Planning Districts that are too small to maintain an adequate resource base of funding or students, comprehensive involvement in regional strategic planning, engagement of faculty in business and industry internships, generating additional fiscal commitments from local business and industry, and incentive grants to Vocational Education Planning Districts that reward schools and colleges for undertaking comprehensive Tech-Prep programs that provide more than dual credit or advanced placement for students.

Conclusion

4. While some efforts to build collaboration and partnerships with the private sector have been undertaken, more extensive initiatives to engage the business community in the planning, delivery, and evaluation of programs at both the secondary and postsecondary levels are needed.

Policy Recommendations

4.1 Administrators at the regional and local levels must conduct joint, comprehensive staff development programs that acquaint all instructors in the secondary and 2-year college programs with various techniques for working closely with business and industry through the development of partnerships, experiential programs for students, and internship experiences for instructors. The target outcome for each

joint staff development program should be the formation or re-activation of an active joint advisory committee for a particular program.

4.2 The OBR and the Division of Vocational and Career Education should require the signoff of a minimum of three local employers or an employer-operated consortium on applications for approval of new vocational-technical education programs. If appropriate, the joint advisory committees noted above should signoff as well.

4.3 Each regional Vocational Education Planning District should sponsor an exchange program with business and industry which creates opportunities for 20% of the instructional and guidance personnel to spend at least three days annually working and observing in appropriate workplace environments. Following these exchange programs instructors should be required to document any curricular changes they are making.

Conclusion

5. The education community in Ohio has not taken an "integrated" view of education as preparation for effective participation in work. While noteworthy exceptions exist, many of those in the education community do not express or demonstrate support for the important contributions that high quality vocational-technical programs make to the total education of youth. Conversely, most vocational programs do not sufficiently stress the computing, communication, problem-solving, creative thinking and writing demands associated with the workplace. Little formal collaboration exists, for example, between math, English, science, and vocational instructors at either the high school or 2-year college level to provide students with an enriched and rigorous curriculum.

Policy Recommendations

5.1. School administrators and faculty at all levels must explore alternative integration strategies which are not dependent upon adding courses and/or faculty. The most common current form(s) of integrating academics in vocational-technical education in Ohio include adding courses in applied academics to occupational programs and/or securing additional academic subject-area faculty to deliver academic instruction. Barriers to implementation/acceptance, however, are numerous:

- too little time available for additional instruction in already condensed occupational courses-of-study;

- academic instruction is often perceived to be unrelated to specific occupational program demands;

- lack of available instructional staff with both academic and occupational qualifications; resistance to change; and,

- perceived lack of relevance for additional academic instruction.

Methods commonly associated with "infusing" academic skills in occupational curricula e.g., team teaching or competency-based/open entry-open exit academic modules within occupational courses, while less frequently mentioned may show promise without demanding significant additional financial commitment.

5.2 Strategies for integrating academics in vocational-technical education need to be based upon "functional" applications rather than on traditional academic approaches.

While the need for additional academic instruction in occupational programs is critical, the form of the academic instruction needs to be "functional" in design and outcomes, i.e., the academic instruction needs to be related specifically to the demands of the occupation for which the student is preparing. Academic lessons need to incorporate basic skills with such learning activities as problem-solving, trouble-shooting, decision-making, and team membership. Furthermore, additional academic instruction should avoid such standard approaches as repetitive drill and applications which are separate from specific occupationally related demands and outcomes.

5.3 Vocational-technical and academic faculties and counselors as well as representatives from affected occupations and students need to be involved jointly in designing integration strategies.

Too frequently, vocational-technical faculty with moderate assistance from program advisory committee members must design and implement integration strategies without critical input/assistance from other affected publics. As a result, existing efforts are unknown, unsupported and/or variable in quality. It is imperative that integration efforts be related to the overall mission and goals of the school system and that all personnel be aware of and committed to such efforts. Involving representatives from administration, academic and vocational-technical faculty, students and community employers of

program graduates should help to achieve necessary commitment and achievement.

Conclusion

6. **Opportunities and resources for professional development in vocational-technical education appear to be severely constrained. Instructors and administrators have only limited opportunities to interact with business and industry personnel to keep in touch with technological developments. Participation in state-wide conferences and professional and trade organizations by vocational educators has been declining steadily. The revitalization of vocational-technical education in Ohio will require a substantial allocation of resources for professional development and curriculum improvement.**

Policy Recommendations

6.1 State level business associations, labor unions, professional, trade, and industrial associations should collaboratively establish a significant scholarship fund for vocational and technical instructors (at any level) for professional development activities that will assist them in becoming or remaining aware of the latest technological development. Such a scholarship fund could also be supported by state tax incentives recommended in 2.1.

6.2 The major priorities for use of future Federal funds for vocational-technical and workforce education and training improvement should be: professional development and curriculum revision/ enhancement.

6.3 Encourage all university-based teacher education programs to offer summer institutes and credit for business and industry internships which would serve teams of educators from high schools, JVSs, and the 2-year colleges.

6.4 Professional associations such as the Ohio Vocational Association, the Ohio Education Association and the Ohio Federation of Teachers should undertake efforts to build alliances with major corporations, businesses, and trade associations. These alliances could provide funding for various professional development and curriculum improvement initiatives.

6.5 The inter-governmental work group recommended in 1.1 should develop a comprehensive plan for coordination of professional development efforts and funding across the various workforce education and training programs in Ohio.

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3. WORKPLACE BASICS: THE SKILLS EMPLOYERS WANT, (1988), American Society for Training and Development (ASTD) and the U.S. Department of Labor, Employment and Training Administration, Washington, D.C.

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6. WORKFORCE 2000: WORK AND WORKERS FOR THE TWENTY-FIRST CENTURY, (June 1987), The Hudson Institute, Indianapolis, Indiana.

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9. THE FORGOTTEN HALF: NON-COLLEGE YOUTH IN AMERICA, (January 1988), An Interim Report on the School-to-Work Transition, The William T. Grant Foundation Commission on Work, Family and Citizenship.

10. THE NEGLECTED MAJORITY, Dale Parnell, (1985), Washington, D.C.: The Community College Press.

11. MODERNIZING AMERICA'S INDUSTRIAL BASE: IMPLICATIONS FOR FIRMS, WORKERS, AND STATES, Brian Bosworth, 1990. Paper presented at the meeting of the National Governor's Association, "Excellence at Work: Principles and Options for State Action," Sacramento, California.

12. Ohio Department of Education, Division of Vocational and Career Education. (August 19, 1991). Closing executive summary of VEDS information.

13. APPLIED TECHNOLOGY IN VOCATION-TECHNICAL EDUCATION IN OHIO: TWENTY-FIRST ANNUAL REPORT, Ohio Council on Vocational Education, (February, 1991), Columbus, Ohio.

14. OHIO'S FUTURE AT WORK: ACTION PLAN FOR ACCELERATING THE MODERNIZATION OF VOCATIONAL EDUCATION IN OHIO, Ohio Department of Education, Division of Vocational and Career Education, (June, 1990), Columbus, Ohio.

15. A GAME PLAN FOR NATIONAL CHAMPIONSHIP FOR OHIO'S PUBLIC SCHOOLS, a report to Governor Richard F. Celeste by the Ohio Education 2000 Commission, Columbus, Ohio.

16. FINAL REPORT, The Joint Commission on Vocational and Technical Education, (February, 1991), Columbus, Ohio.

GLOSSARY

Applied Academics: The instruction of mathematics, language arts, and science using an applied approach to prepare students for employment and lifelong learning. The application may be correlated to a vocational program or be a precursor to vocational program enrollment.

Articulation: A prescribed curriculum sequence--such as between grade levels, between vocational and academic education, and between secondary and postsecondary education--which consists of interrelated components to achieve specified educational outcomes and to minimize duplication.

Assessment: A series of inventories and performance measures to determine an individual's career interest, aptitudes, abilities, and achievements. This process leads to evaluation, interpretation, and prescription enabling a student to achieve his or her educational and career goals.

Career Education: A developmental process that is for all youth and adults and that emphasizes self-awareness, career decision making, economics, work attitudes, and occupational awareness.

College Preparatory Program: Educational course work of an academic and liberal arts nature designed to prepare students for college studies.

Competency: The skills and knowledge that comprise a program, as verified by an advisory group from education, business, industry, and/or labor. Mastery of these skills is necessary for job entry, continuing education, and occupational development and advancement.

Comprehensive Vocational Education Planning District (VEPD) Plan: A locally-prepared document, updated annually, which outlines the VEPD intent for vocational education programs, support services, and other components that support the modernization of vocational education.

Continuing Education: Postsecondary education, including self-directed learning and workplace training, that further refines, strengthens, and expands an individual's skills and/or knowledge.

Course of Study: An official school district document prescribing what shall be taught based on program philosophy, goals, and objective statements. The mandated vocational courses of study shall delineate the occupational, academic,and employability skills that are addressed by the program to provide students with the necessary competencies to successfully enter, compete, and advance in a changing work world.

Employability Skills: Those capabilities, attitudes, and values required to successfully enter, compete, and remain in the work force including self-employment. These skills include, but are not limited to, decision making; critical thinking; teamwork; following directions; willingness to work; and job search, application, and self-marketing skills.

Joint Vocational School District (JVSD): An area comprised of two or more adjoining districts, composed of all the school districts whose boards of education have approved the formation of the joint vocational school district includes a vocational school to serve youths and adults from participating school districts.

Job Training Partnership Act (JTPA): A federal employment and training program for economically disadvantaged youths and adults or those individuals with barriers to employment.

Magnet School: Joint vocational schools that develop, house, and maintain enhanced academic programs for any secondary student from participating school districts (e.g., city, local, or exempted village school district), regardless of whether students are pursuing vocational, college preparatory, or a combination of the two educational tracks.

Measurable Outcome: Quantitative and qualitative indicators that are used to determine the success of students and programs.

Occupational Cluster: A grouping of competencies based on occupational commonalities and current labor market patterns.

Policies: Regulations determined by the Ohio Department of Education that are based on state and federal laws and State Board of Education standards. Policies guide vocational program planning, approval, funding, delivery, and evaluation.

Postsecondary: Education provided beyond the high school level (includes part-time and full-time adult education, apprenticeships,and two-year and four-year college education).

PRIDE: Program Review for Improvement, Development and Evaluation

Standards: Minimum levels of performance promulgated by the State Board of Education to direct public schools to assure quality programs and to comply with legislative mandates. These standards are applied to all elementary and secondary schools establishing graduation criteria and setting the stage for development of local education philosophies and goals which guide development of courses of study.

Support Services: Community or school supplemental staff, equipment, materials, and/or activities (e.g., financial aid, counseling, job placement, child care, transportation) that are designed to assist secondary and adult students achieve vocational program objectives.

Vocational Education Completer: Youths and adults completing a planned sequence of courses, services, or activities designed to meet a vocational objective.

Vocational Education Planning District (VEPD): A school district, or group of districts, organized to provide mandated vocational education programs and services.

Vocational Student Organizations: Intracurricular group activities that support vocational instruction objectives by helping student members develop interpersonal, citizenship, and leadership skills.

Work and/or Community Experiences: Documented, school-supervised experiences--paid or volunteer--that are selected, planned, and evaluated to contribute to a student's individual career plan and passport.

EDUCATION for EMPLOYMENT CONSULTANTS & ASSOCIATES

L. Allen Phelps, Ph.D.
Robert P. Sorensen, Ph.D.

Dear Adult Administrator:

The Ohio Commission on Education Improvement has implemented a study entitled "Needs Assessment of Ohio's Vocational Education and Technical Training Requirements" through the services of a third party evaluator. This study is being conducted because of changes in the economy, the needs of citizens, strategic planning, and the education system itself.

The specific objectives of the assessment will be to determine "what is," and to propose "what should be considered" in the areas of articulation between the secondary and post secondary systems, integration of academic and vocational-technical education, business, industry and labor partnerships, and the coordination of services for special needs populations.

We are writing to request your assistance in completing part of the status study. Specifically, we would appreciate it if you would complete the enclosed survey and return it directly to the firm conducting the study, Education for Employment Consultants, in the enclosed, self-addressed envelope. Each survey has been coded to facilitate follow-up but be assured that your responses will be held in strict confidence. Please return the survey by May 17, 1991.

Thank you in advance for your time and effort in this important task. Your contributions continue to make our educational system vital and dynamic. If you have any questions about the study, please contact Ms Helen Friend, Ohio Commission on Education Improvement, (614) 644-1983.

Sincerely,

Leadership for Vocational, Technical and Adult Education
17 Wood Crest Court, Madison, WI 53705
(608) 263-7592

STATE OF OHIO
DEPARTMENT OF EDUCATION
COLUMBUS

FRANKLIN B. WALTER
SUPERINTENDENT OF
PUBLIC INSTRUCTION

DARRELL L. PARKS, DIRECTOR
VOCATIONAL AND CAREER EDUCATION
907 OHIO DEPARTMENTS BUILDING
65 South Front Street
Columbus, Ohio 43266-0308

TO: Secondary Vocational Education Directors

FROM: Darrell L. Parks, Director
Division of Vocational and Career Education
Ohio Department of Education

RE: Ohio Commission on Education Improvement Study Entitled "Needs Assessment of Ohio's Vocational Education and Technical Training Requirements"

DATE: April 23, 1991

The Ohio Commission on Education Improvement has implemented a study entitled "Needs Assessment of Ohio's Vocational Education and Technical Training Requirements" through the services of a third party evaluator. This study is being conducted because of changes in the economy, the needs of citizens, strategic planning, and the education system itself.

The specific objectives of the assessment will be to determine "what is" and to propose "what should be considered" in the areas of articulation between the secondary and post secondary systems, integration of academic and vocational/technical education, business and industry partnerships, and the coordination of services for special needs populations.

Your vocational education planning district superintendent has been advised that you are in receipt of the enclosed survey instrument, and that you should promptly complete the instrument and return it in the enclosed self-addressed envelope by May 17, 1991. Please be advised that the post secondary adult vocational education administrator in your district has also received a survey instrument. The post secondary adult vocational education instrument is a different one than the one that you are to complete, therefore, it is imperative that both completed survey instruments are returned.

Thank you in advance for your time and effort in this important task. Your contributions continue to make our educational system vital and dynamic. If you have any questions about the study, please contact Ms. Helen Friend, Ohio Commission on Education Improvement, (614) 644-1983.

DLP:rrf

Enclosure

"An Equal Opportunity Employer"

Survey of Secondary Vocational Education Administrators

Sponsored by the Ohio Commission on Education Improvement, this survey is designed to assess your perceptions of the status of vocational-technical education programs in Ohio in four key areas -- involvement with business and industry, integration of academic and vocational education, articulation with postsecondary programs, and services for special populations. Please respond candidly and fully. Your responses will be held in strict confidence. The data and information will be reported in aggregate form only.

Purposes of Vocational-Technical Education

1. Listed below are several goals for vocational-technical education in Ohio. Please rate each goal in terms of it's importance for secondary, adult/postsecondary, and technical college levels respectively.

Purpose	Importance: Secondary (Lo Hi)	Postsecondary/ Adult (Lo Hi)	Technical College (Lo Hi)
a. To provide career planning and education	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
b. To reinforce/apply basic skills	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
c. To develop work-related attitudes and values	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
d. To develop entry-level occupational competencies	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
e. To develop economic/technological literacy	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
f. To develop life management, including consumer skills	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
g. To provide job-retraining	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
h. To provide continuing job training	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
i. Other:_____	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

2. Of these goals, rank below the three you believe will need the most attention and resources in Ohio over the next five years <u>for each provider</u>. In the blanks, insert the letter of the goal (e.g., "a", "c").

		Secondary	Postsecondary/Adult	Technical College
Most important	# 1	_____	_____	_____
	# 2	_____	_____	_____
	# 3	_____	_____	_____

Involvement with Business and Industry

3. Listed below are several ways in which secondary vocational education programs have been involved with local business and industry. For each of these, please indicate the extent of the collaborative activity

Strategies	Extensiveness *Not at all* *A great deal*
a. Involving business representatives on active advisory committees	0 1 2 3 4 5
b. Placing students in co-op education positions	0 1 2 3 4 5
c. Providing job placement services	0 1 2 3 4 5
d. Providing customized training programs	0 1 2 3 4 5
e. Obtaining equipment and other current resources for instruction	0 1 2 3 4 5
f. Using guest lecturers from business and labor	0 1 2 3 4 5
g. Providing apprenticeship training	0 1 2 3 4 5
h. Using employees as mentors	0 1 2 3 4 5
i. Involving business, industry, and labor in curriculum development (e.g., DACUM)	0 1 2 3 4 5
j. Other, please describe:	
_____	0 1 2 3 4 5
_____	0 1 2 3 4 5

4. Overall, how would you rate the **quality** of the business, industry, and labor involvement in the secondary vocational programs? (circle the appropriate number)

Poor *Excellent*

1 2 3 4 5

5. In your community, what are the major barriers or impediments to expanding business and industry involvement in the secondary vocational education programs?

6. What are the major improvements needed in this area, if any?

Integrating Academic and Vocational Education

7. Listed below are several approaches for integrating academics into vocational programs. Please indicate which strategies are being used in your programs and the extent to which all vocational programs are engaged in the strategy.

Strategies	Extensiveness: *None* 0 1 2 3 4 5 *In more than 75% of Programs*
a. Team teaching with math, science or English teachers	0 1 2 3 4 5
b. Introduction of applied academics courses	0 1 2 3 4 5
c. Introduction of applied academics units within courses	0 1 2 3 4 5
d. Pre-assessment of basic skills	0 1 2 3 4 5
e. Place students appropriately in basic skills classes	0 1 2 3 4 5
e. Development of applied modules for use by math, science, or English teachers	0 1 2 3 4 5
f. Other, please describe:	
_____	0 1 2 3 4 5
_____	0 1 2 3 4 5

8. Has your district developed special programs (e.g., magnet schools) designed to integrate academic and vocational curricula?

Yes _____ No _____

If yes, please describe this program briefly below or enclose descriptive information with your response.

9. In your community, what are the major barriers or impediments to integrating academics and basic skills in the secondary vocational education programs?

10. What are the major improvements needed in this area, if any?

Articulation with Technical Programs in 2-Year Colleges

11. Does your program have articulation agreements in place with one or more postsecondary institutions? Yes No

If yes, briefly describe each agreement, its purpose, the institution, and the date initiated.

	Purpose	*Institution*	*Date Established*
a.			
b.			
c.			

(Use an extra sheet if more than three)

12. Are there in place agreements or arrangements with technical and community colleges that provide the following:

	Yes	*No*
a. Dual high school and college credit	_____	_____
b. Advanced placement	_____	_____
c. Access to apprenticeship programs (e.g., pre-apprenticeship programs)	_____	_____
d. Sequential courses at the postsecondary level (If yes, please list technical areas below, e.g., agriculture)	_____	_____
e. Standing articulation committees	_____	_____
f. Sharing of equipment or facilities	_____	_____
g. Other, please describe below:		
_____	_____	_____
_____	_____	_____

13. In your community, what are the major barriers or impediments to expanding or initiating articulation agreements for the secondary vocational education programs?

14. What are the major improvements needed in this area, if any?

Services for Special Students

15. In the space below, indicate which of the special target groups are enrolled in the secondary vocational education program and indicate whether the anticipated trend is for growth or decline in your school district over the next five years.

	Decrease	*Slight Decrease*	*No change*	*Slight Increase*	*Increase*
Students with disabilities	1	2	3	4	5
Economically disadvantaged	1	2	3	4	5
Academically disadvantaged	1	2	3	4	5
Teen parents	1	2	3	4	5
Limited English proficient	1	2	3	4	5
Unemployed adults	1	2	3	4	5
Adults in need of retraining	1	2	3	4	5
JTPA-eligible adults	1	2	3	4	5

16. For the special programs or agencies listed below, indicate which ones are providing various services to students in your program and your assessment of the adequacy of the support services provided. If you check "not serving", you do not need to rate the adequacy of the support services.

	Not Serving	Adequacy of Support Services?				
		Low				*High*
Special education	_____	1	2	3	4	5
Bilingual education	_____	1	2	3	4	5
Vocational rehabilitation	_____	1	2	3	4	5
JTPA	_____	1	2	3	4	5
ADC/JOBS	_____	1	2	3	4	5
Other, please describe	_____	1	2	3	4	5

17. In your community, what are the major barriers or impediments to expanding support services for special students in the secondary vocational education programs?

18. What are the major improvements needed in this area, if any?

General Issues

19. In the space below, describe any significant issues or problems faced by secondary vocational education programs that are not described in the items above.

20. In your opinion, what state-level improvements should be made to strengthen secondary vocational education in Ohio?

a. Changes in legislation, policies and regulations:

b. Changes in governance structures, including interagency agreements:

c. Changes in funding:

d. Changes in regional/local planning requirements:

e. Changes in evaluation and accountability:

f. Changes in personnel certification/professional development requirements:

g. Other:

Thank you for taking time to complete this questionnaire. Your responses will be an important addition to the study. If you would like to discuss your concerns with a member of the study team, please provide your name, telephone number and a convenient time for us to call.

Please return the questionnaire to:

Education for Employment Consultants
17 Wood Crest Court
Madison, WI 53705

Deadline for Receipt of Completed Surveys: May 17, 1991

STATE OF OHIO
DEPARTMENT OF EDUCATION
COLUMBUS

FRANKLIN B. WALTER
SUPERINTENDENT OF
PUBLIC INSTRUCTION

DARRELL L. PARKS, DIRECTOR
VOCATIONAL AND CAREER EDUCATION
907 OHIO DEPARTMENTS BUILDING
65 South Front Street
Columbus, Ohio 43266-0308

TO: Post Secondary Adult Vocational Education Administrators

FROM: Darrell L. Parks, Director
Division of Vocational and Career Education
Ohio Department of Education

RE: Ohio Commission on Education Improvement Study Entitled "Needs Assessment of Ohio's Vocational Education and Technical Training Requirements"

DATE: April 23, 1991

The Ohio Commission on Education Improvement has implemented a study entitled "Needs Assessment of Ohio's Vocational Education and Technical Training Requirements" through the services of a third party evaluator. This study is being conducted because of changes in the economy, the needs of citizens, strategic planning, and the education system itself.

The specific objectives of the assessment will be to determine "what is" and to propose "what should be considered" in the areas of articulation between the secondary and post secondary systems, integration of academic and vocational/technical education, business and industry partnerships, and the coordination of services for special needs populations.

Your vocational education planning district superintendent has been advised that you are in receipt of the enclosed survey instrument, and that you should promptly complete the instrument and return it in the enclosed self-addressed envelope by May 17, 1991. Please be advised that the secondary vocational education director in your district has also received a survey instrument. The secondary vocational education instrument is a different one than the one that you are to complete, therefore, it is imperative that both completed survey instruments are returned.

Thank you in advance for your time and effort in this important task. Your contributions continue to make our educational system vital and dynamic. If you have any questions about the study, please contact Ms. Helen Friend, Ohio Commission on Education Improvement, (614) 644-1983.

DLP:rrf

Enclosure

Survey of Vocational Postsecondary/Adult Administrators

Sponsored by the Ohio Commission on Education Improvement, this survey is designed to assess your perceptions of the status of vocational-technical education programs in Ohio in four key areas -- involvement with business and industry, integration of academic and vocational education, articulation with postsecondary programs, and services for special populations. Please respond candidly and fully. Your responses will be held in strict confidence. The data and information will be reported in aggregate form only.

Purposes of Vocational-Technical Education

1. Listed below are several goals for vocational-technical education in Ohio. Please rate each goal in terms of it's importance for secondary, adult/postsecondary, and technical college levels respectively.

Purpose	*Importance* Secondary (*Lo* 1 2 3 4 5 *Hi*)	Postsecondary/ Adult (*Lo* 1 2 3 4 5 *Hi*)	Technical College (*Lo* 1 2 3 4 5 *Hi*)
a. To provide career planning and education	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
b. To reinforce/apply basic skills	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
c. To develop work-related attitudes and values	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
d. To develop entry-level occupational competencies	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
e. To develop economic/technological literacy	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
f. To develop life management, including consumer skills	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
g. To provide job-retraining	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
h. To provide continuing job training	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
i. Other:_____	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

2. Of these goals, rank below the three you believe will need the most attention and resources in Ohio over the next five years for each provider. In the blanks, insert the letter of the goal (e.g., "a", "c").

		Secondary	Postsecondary/Adult	Technical College
Most important	# 1	_____	_____	_____
	# 2	_____	_____	_____
	# 3	_____	_____	_____

Involvement with Business and Industry

3. Listed below are several ways in which adult vocational programs have been involved with local business and industry. For each of these, please indicate the extent of the collaborative activity

Strategies	Extensiveness *Not at all* *A great deal*
a. Involving business representatives on active advisory committees	0 1 2 3 4 5
b. Placing students in co-op education positions	0 1 2 3 4 5
c. Providing job placement services	0 1 2 3 4 5
d. Providing customized training programs	0 1 2 3 4 5
e. Obtaining equipment and other current resources for instruction	0 1 2 3 4 5
f. Using guest lecturers from business and labor	0 1 2 3 4 5
g. Providing apprenticeship training	0 1 2 3 4 5
h. Using employees as mentors	0 1 2 3 4 5
i. Involving business, industry, and labor in curriculum development (e.g., DACUM)	0 1 2 3 4 5
j. Other, please describe:	
_____	0 1 2 3 4 5
_____	0 1 2 3 4 5

4. Overall, how would you rate the **quality** of the business, industry, and labor involvement in the secondary vocational programs? (circle the appropriate number)

Poor *Excellent*

1 2 3 4 5

5. In your community, what are the major barriers or impediments to expanding business and industry involvement in the adult vocational education programs?

6. What are the major improvements needed in this area, if any?

Integrating Academic and Vocational Education

7. Listed below are several approaches for integrating academics into vocational programs. Please indicate which strategies are being used in your programs and the extent to which adult vocational programs are engaged in the strategy.

Strategies	Extensiveness: *None* 0 1 2 3 4 5 *In more than 75% of Programs*
a. Team teaching with math, science or English teachers	0 1 2 3 4 5
b. Introduction of applied academics courses	0 1 2 3 4 5
c. Introduction of applied academics units within courses	0 1 2 3 4 5
d. Pre-assessment of basic skills	0 1 2 3 4 5
e. Place students appropriately in basic skills classes	0 1 2 3 4 5
e. Development of applied modules for use by math, science, or English teachers	0 1 2 3 4 5
f. Other, please describe:	
_____	0 1 2 3 4 5
_____	0 1 2 3 4 5

8. Has your district developed special programs (e.g., Vocational English as a Seconc Language) designed to integrate academic and vocational curricula?

Yes _____ No _____

If yes, please describe this program briefly below or enclose descriptive information with your response.

9. In your community, what are the major barriers or impediments to integrating academics and basic skills in the adult vocational education programs?

10. What are the major improvements needed in this area, if any?

Articulation with Technical Programs in 2-Year Colleges

11. Does your program have articulation agreements in place with one or more postsecondary institutions? Yes No

If yes, briefly describe each agreement, its purpose, the institution, and the date initiated.

	Purpose	*Institution*	*Date Established*
a.			
b.			
c.			

(Use an extra sheet if more than three)

12. Are there in place agreements or arrangements with technical and community colleges that provide the following:

	Yes	*No*
a. Dual high school and college credit	_____	_____
b. Advanced placement	_____	_____
c. Access to apprenticeship programs (e.g., pre-apprenticeship programs)	_____	_____
d. Sequential courses at the 2-year college level (If yes, please list technical areas below, e.g., agriculture)	_____	_____
e. Standing articulation committees	_____	_____
f. Sharing of equipment or facilities	_____	_____
g. Other, please describe below:		
_____	_____	_____
_____	_____	_____

13. In your community, what are the major barriers or impediments to expanding or initiating articulation agreements for the adult vocational education programs?

14. What are the major improvements needed in this area, if any?

Services for Special Students

15. In the space below, indicate which of the special target groups are enrolled in the secondary vocational education program and indicate whether the anticipated trend is for growth or decline in your school district over the next five years.

	Decrease	*Slight Decrease*	*No change*	*Slight Increase*	*Increase*
Students with disabilities	1	2	3	4	5
Economically disadvantaged	1	2	3	4	5
Academically disadvantaged	1	2	3	4	5
Teen parents	1	2	3	4	5
Limited English proficient	1	2	3	4	5
Unemployed adults	1	2	3	4	5
Adults in need of retraining	1	2	3	4	5
JTPA-eligible adults	1	2	3	4	5
Displaced homemakers	1	2	3	4	5
Veterans	1	2	3	4	5
ADC/JOBS recipients	1	2	3	4	5

16. For the special programs or agencies listed below, indicate which ones are providing various services to students in your program and your assessment of the adequacy of the support services provided. If you check "not serving", you do not need to rate the adequacy of the support services.

	Not Serving	Adequacy of Support Services?				
		Low				*High*
Special education	_____	1	2	3	4	5
Bilingual education	_____	1	2	3	4	5
Vocational rehabilitation	_____	1	2	3	4	5
JTPA	_____	1	2	3	4	5
ADC/JOBS	_____	1	2	3	4	5
Other, please describe	_____	1	2	3	4	5

17. In your community, what are the major barriers or impediments to expanding support services for special students in the adult vocational education programs?

18. What are the major improvements needed in this area, if any?

General Issues

19. In the space below, describe any significant issues or problems faced by adult vocational education programs that are not described in the items above.

20. In your opinion, what state-level improvements should be made to strengthen adult vocational education in Ohio?

a. Changes in legislation, policies and regulations:

b. Changes in governance structures, including interagency agreements:

c. Changes in funding:

d. Changes in regional/local planning requirements:

e. Changes in evaluation and accountability:

f. Changes in personnel certification/professional development requirements:

g. Other:

Thank you for taking time to complete this questionnaire. Your responses will be an important addition to the study. If you would like to discuss your concerns with a member of the study team, please provide your name, telephone number and a convenient time for us to call.

Please return the questionnaire to:

Education for Employment Consultants
17 Wood Crest Court
Madison, WI 53705

Deadline for Receipt of Completed Surveys: May 17, 1991

Ohio Commission on Education Improvement
88 East Broad Street, Suite 880
Columbus, Ohio 43266-0880
(614) 644-19
(614) 752-8635 Fax

April 26, 1991

Mr. Roger Myers
Plain Local Schools
901 44th Street SW
Canton, Ohio 44709

Dear Mr. Myers:

We at the Ohio Commission on Education Improvement are conducting a study entitled "Needs Assessment of Ohio's Vocational Education and Technical Training Requirements," because of changes in the economy, in the needs of citizens and students, and in strategic planning for the education system.

The specific objectives of the assessment will be to determine "what is" and to propose "what should be considered" in the areas of articulation between secondary and post-secondary systems, integration of academic and vocational-technical education, business and industry partnerships with education, and the coordination of services for special needs populations.

We would appreciate your completing the survey and returning it in the enclosed envelope directly to the firm conducting the study, Education for Employment Consultants. Each survey has been coded to facilitate follow-up, but please be assured that your responses will be held in strict confidence. Please return the survey by May 17, 1991.

Thank you in advance for your time and effort in this important task. If you have any questions about the study, please contact Helen Friend, Ohio Commission on Education Improvement, (614) 644-1983.

Very truly yours,

Karen S. Gallagher

Karen S. Gallagher, Ph.D.
Staff Director

Enclosures

Survey of Technical Education in the Ohio 2-Year College System

Sponsored by the Ohio Commission on Education Improvement, this survey is designed to assess your perceptions of the status of vocational-technical education programs in Ohio in four key areas -- involvement with business and industry, integration of academic and vocational education, articulation with secondary programs, and services for special populations. Please respond candidly and fully. Your responses will be held in strict confidence. The data and information will be reported in aggregrate form only.

Purposes of Vocational-Technical Education

1. Listed below are several goals for vocational-technical education in Ohio. Please rate each goal in terms of it's importance for secondary, adult/postsecondary, and technical college levels respectively.

Purpose	Importance: Secondary (Lo Hi)	Postsecondary/ Adult (Lo Hi)	Technical College (Lo Hi)
a. To provide career planning and education	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
b. To reinforce/apply basic skills	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
c. To develop work-related attitudes and values	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
d. To develop entry-level occupational competencies	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
e. To develop economic/technological literacy	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
f. To develop life management, including consumer skills	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
g. To provide job-retraining	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
h. To provide continuing job training	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
i. Other:_____	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

2. Of these goals, rank below the three you believe will need the most attention and resources in Ohio over the next five years for each provider. In the blanks, insert the letter of the goal (e.g., "a", "c").

		Secondary	Postsecondary/Adult	Technical College
Most important	# 1	_____	_____	_____
	# 2	_____	_____	_____
	# 3	_____	_____	_____

Involvement with Business and Industry

3. Listed below are several ways in which postsecondary vocational-technical education programs have been involved with local business and industry. For each of these, please indicate the extent of the collaborative activity

	Extensiveness *Not at all* *A great deal*
a. Involving business representatives on active advisory committees	0 1 2 3 4 5
b. Placing students in co-op education positions	0 1 2 3 4 5
c. Providing job placement services	0 1 2 3 4 5
d. Providing customized training programs	0 1 2 3 4 5
e. Obtaining equipment and other current resources for instruction	0 1 2 3 4 5
f. Using guest lecturers from business and labor	0 1 2 3 4 5
g. Providing apprenticeship training	0 1 2 3 4 5
h. Providing faculty internships	0 1 2 3 4 5
i. Involving business, industry and labor in curriculum development (e.g., DACUM)	0 1 2 3 4 5
j. Using employers as mentors	0 1 2 3 4 5
k. Other, please describe:	
_____	0 1 2 3 4 5
_____	0 1 2 3 4 5

4. Overall, how would you rate the quality of the business, industry, and labor involvement in the technical college programs? (circle the appropriate number)

Poor				Excellent
1	2	3	4	5

5. In your community, what are the major barriers or impediments to expanding business and industry involvement in vocational-technical education programs?

6. What are the major improvements needed in this area, if any?

Integrating Academic and Technical Education

7. Listed below are several approaches for integrating academics into vocational programs. Please indicate which strategies are being used in your programs and the extent to which all vocational-technical programs are engaged in the strategy.

	Extensiveness					
	None					*In more than 75% of programs*
Strategies						
a. Team teaching with math, science or English instructors	0	1	2	3	4	5
b. Pre-assessment of basic skills	0	1	2	3	4	5
c. Appropriate placement in courses based on skill levels	0	1	2	3	4	5
d. Re-designing general education requirements						
e. Re-designing technical-related requirements (e.g. business communications)	0	1	2	3	4	5
f. Other, please describe:						
_____	0	1	2	3	4	5
_____	0	1	2	3	4	5

8. Has your college developed special efforts (e.g., staff inservice, curriculum specialist, developing new capstone/integrating projects for students in specific curriculums) designed to integrate academic and vocational curricula/learning?

Yes _____ No _____

If yes, please describe these efforts briefly below or enclose descriptive information with your response.

9. In your community, what are the major barriers or impediments to integrating academics and basic skills in the technical education programs?

10. What are the major improvements needed in this area, if any?

Articulation with Secondary Vocational Education

11. Does your college have articulation agreements in place with one or more secondary institutions? Yes No

If yes, briefly describe each agreement, its purpose, the institution, and the date initiated.

	Purpose	*Institution*		*Date*
		JVS/VEPD	*High School*	*Established*
a.				
b.				
c.				

(Use an extra sheet if more than three)

12. Do you have in place agreements or arrangements with secondary schools that provide the following:

	Yes	*No*
a. Dual high school and college credit	_____	_____
b. Advanced placement	_____	_____
c. Access to apprenticeship programs (e.g., pre-appprentice programs)	_____	_____
d. Sequential courses at the postsecondary level (If yes, please list technical areas below, e.g., agriculture)	_____	_____
e. Joint advisory committees	_____	_____
f. Standing articulation committees	_____	_____
g. Sharing of equipment or facilities	_____	_____
h. Training of secondary instructors	_____	_____
i. Conducting vocational student organization competitions	_____	_____
j. Other, please decribe below:		
_____	_____	_____
_____	_____	_____

13. In your community, what are the major barriers or impediments to expanding or initiating articulation agreements with secondary programs?

14. What are the major improvements needed in this area, if any?

Services for Special Students

15. In the space below, indicate which of the special target groups are enrolled in the technical college program and indicate whether the anticipated trend is for growth or decline in your college district over the next five years.

	Decrease	Slight Decrease	No change	Slight Increase	Increase
Students with disabilities	1	2	3	4	5
Economically disadvantaged	1	2	3	4	5
Academically disadvantaged	1	2	3	4	5
Teen parents	1	2	3	4	5
Limited English proficient	1	2	3	4	5
Unemployed adults	1	2	3	4	5
Adults in need of retraining	1	2	3	4	5
JTPA-eligible adults	1	2	3	4	5
ADC recipients	1	2	3	4	5
Displaced homemakers	1	2	3	4	5
Veterans	1	2	3	4	5

16. For the special programs or agencies listed below, indicate which ones are providing various services to students in your program and your assessment of the adequacy and quality of the support services provided. If you check "not serving", you do not need to rate the adequacy of support services.

	Not Serving	Adequacy of Support Services? Low				High
Special education	_____	1	2	3	4	5
Bilingual education	_____	1	2	3	4	5
Vocational rehabilitation	_____	1	2	3	4	5
Workplace literacy	_____	1	2	3	4	5
JTPA	_____	1	2	3	4	5
ADC/JOBS	_____	1	2	3	4	5
Adult basic education	_____	1	2	3	4	5
Other, please describe	_____	1	2	3	4	5

17. In your community, what are the major barriers or impediments to expanding support services for special students in the 2-year college programs?

18. What are the major improvements needed in this area, if any?

General Issues

19. In the space below, describe any significant issues or problems faced by 2-year college programs that are not described in the items above.

20. In your opinion, what state-level improvements should be made to strengthen postsecondary vocational-technical education in Ohio?

a. Changes in legislation, policies and regulations:

b. Changes in governance structures, including interagency agreements:

c. Changes in funding:

d. Changes in regional/local planning requirements:

e. Changes in evaluation and accountability:

f. Changes in personnel certification/professional development requirements:

g. Other changes:

Thank you for taking time to complete this questionnaire. Your responses will be an important addition to the study. If you would like to discuss your concerns with a member of the study team, please provide your name, telephone number and a convenient time for us to call.

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